

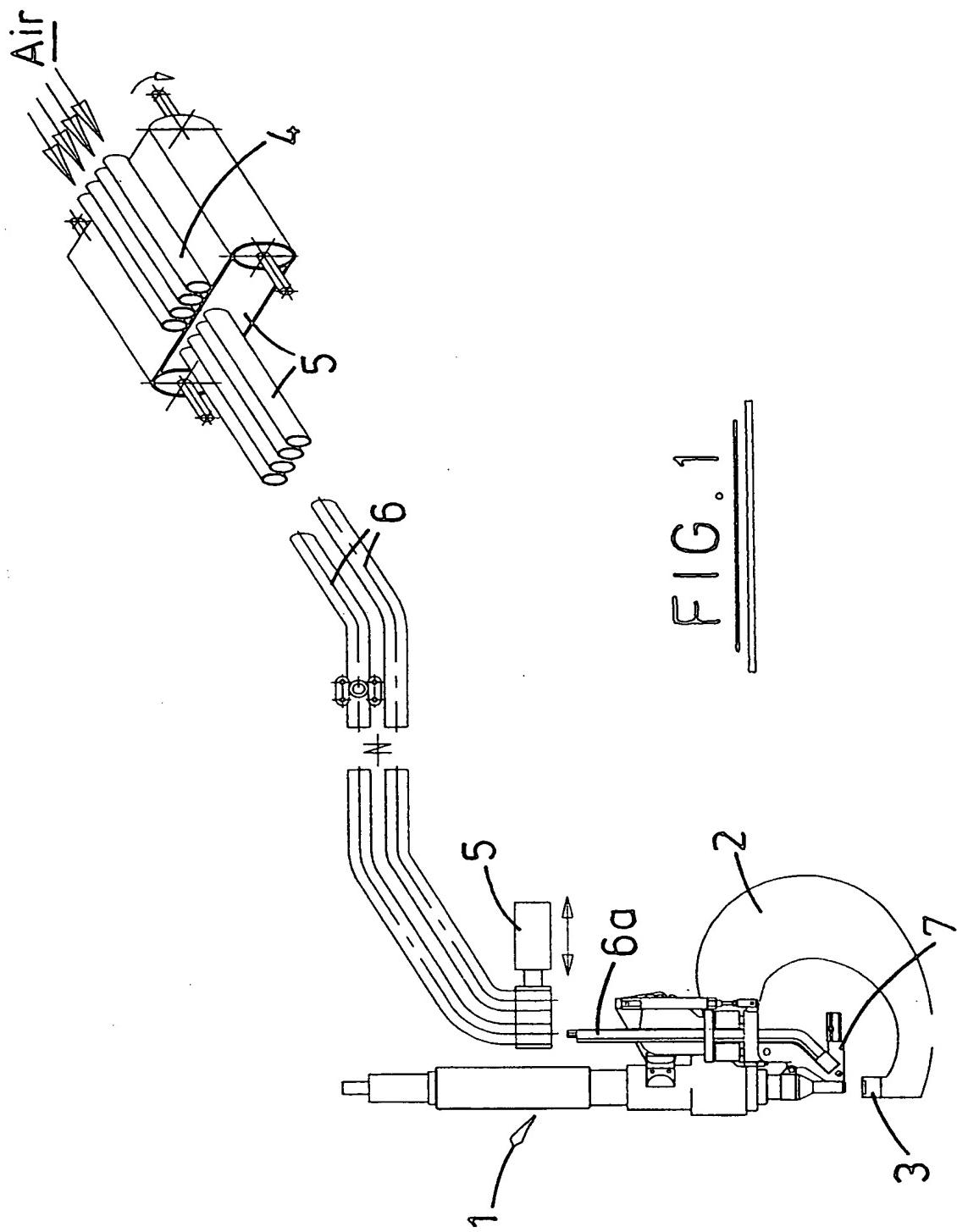
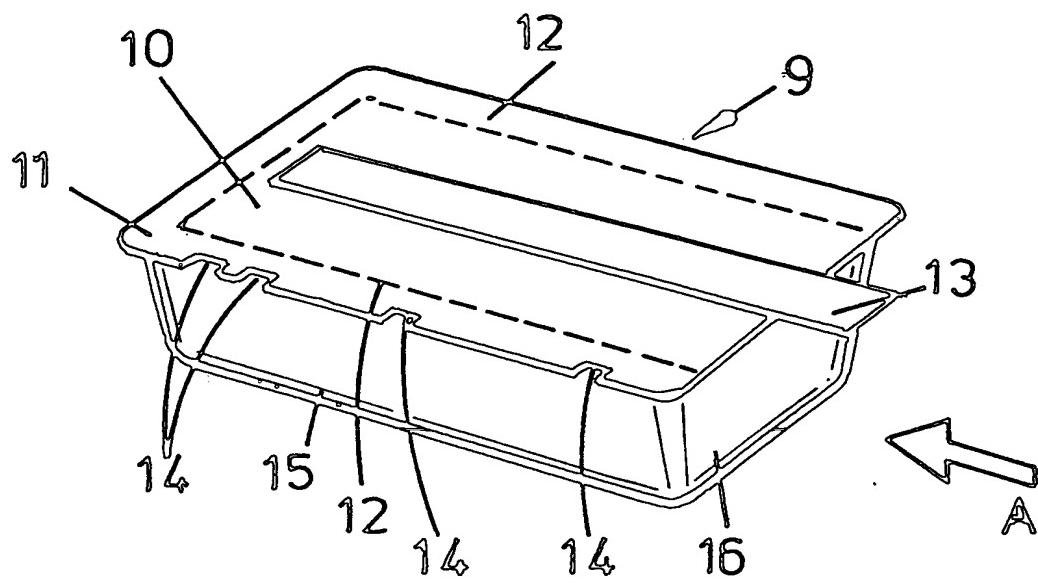
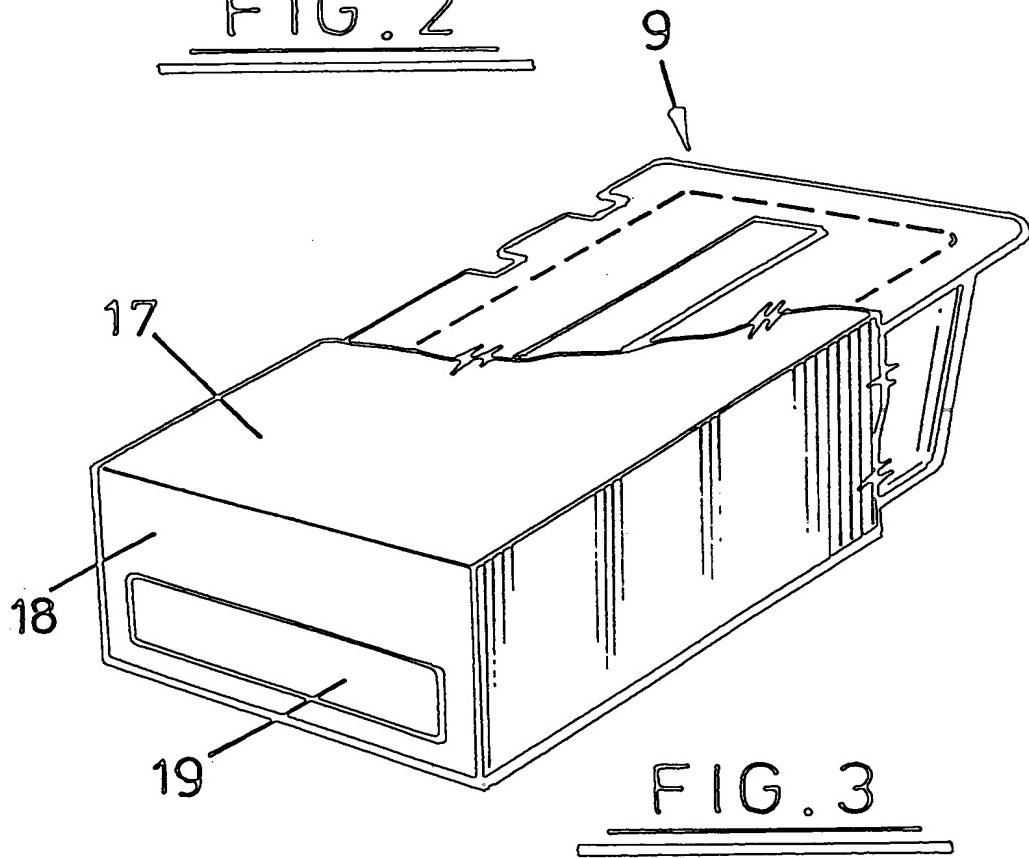
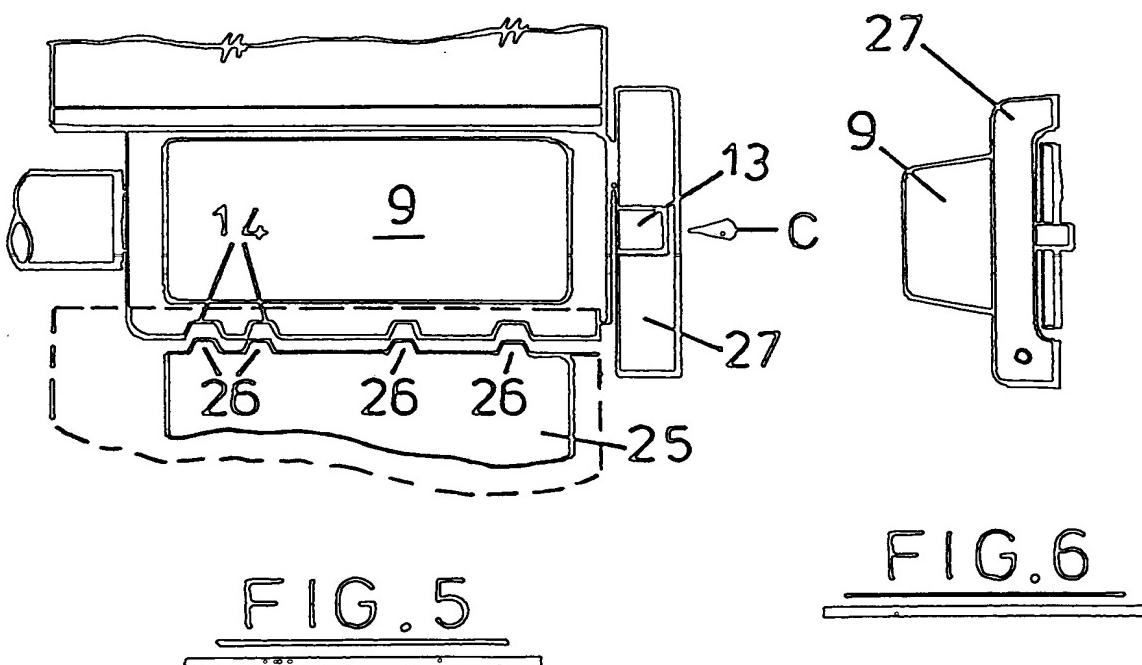
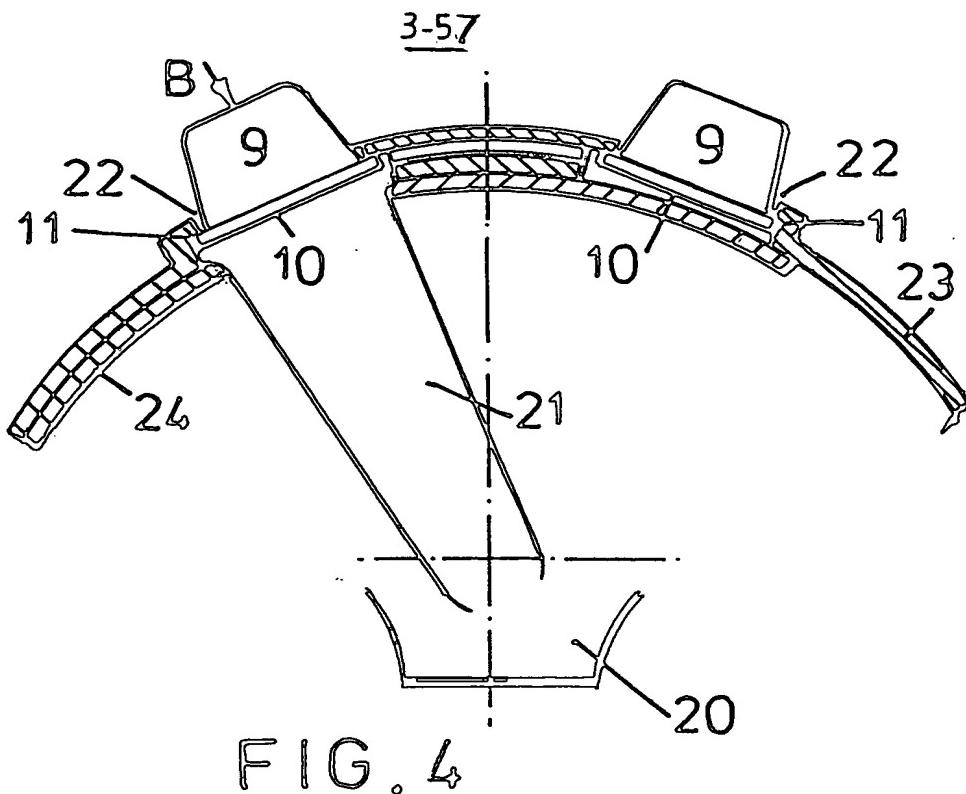
1-57

FIG. 1

2-57FIG. 2FIG. 3



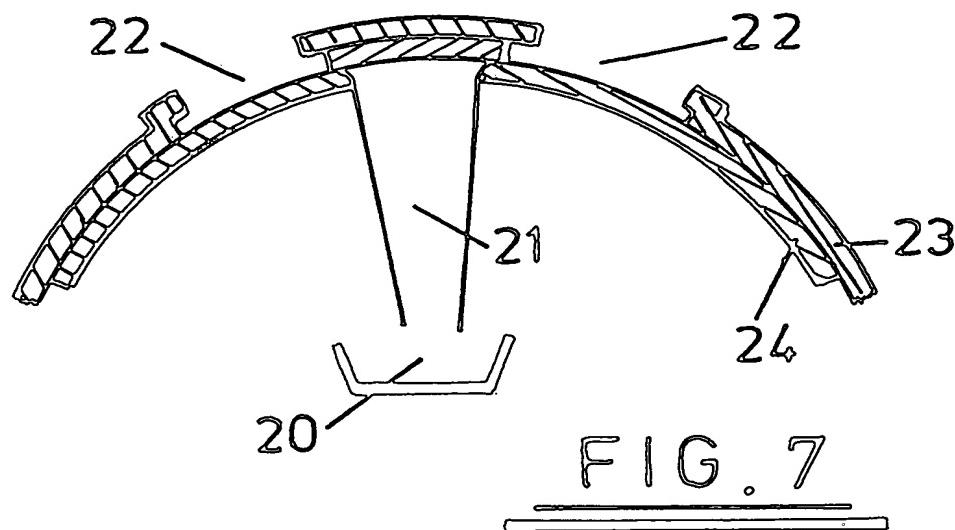
4-57

FIG. 7

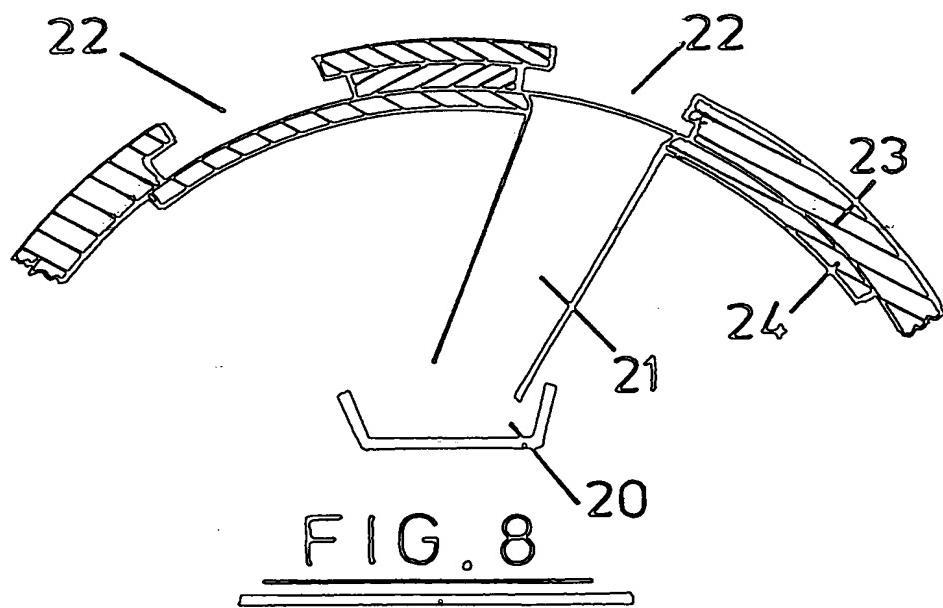
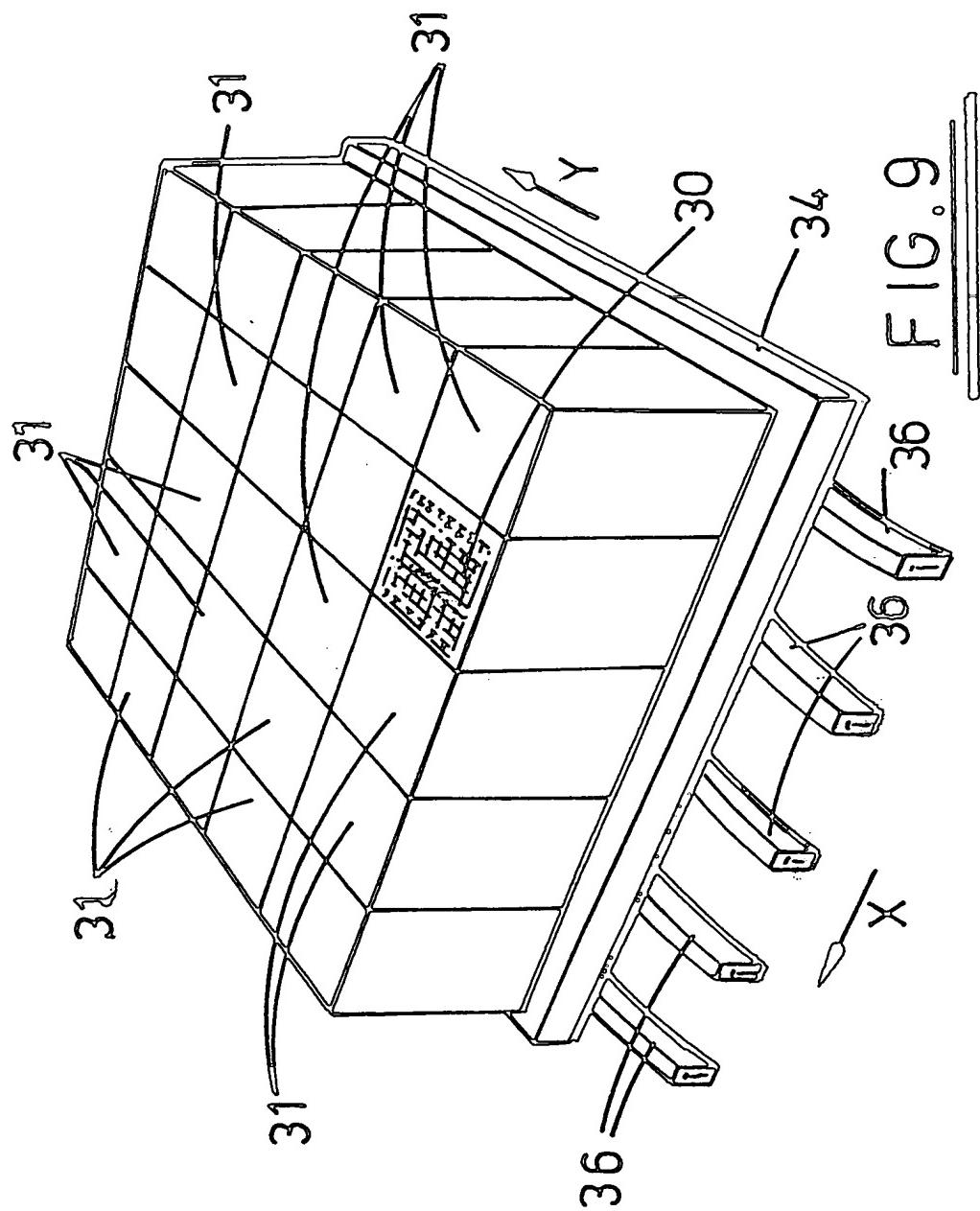
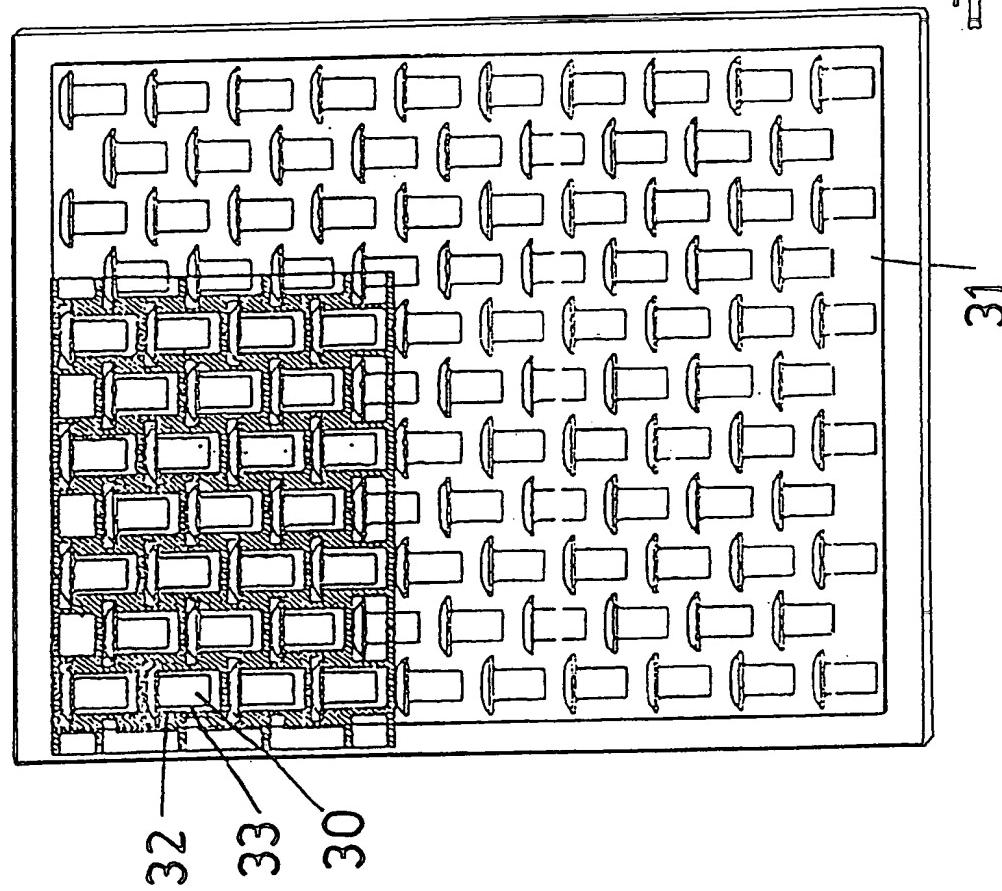


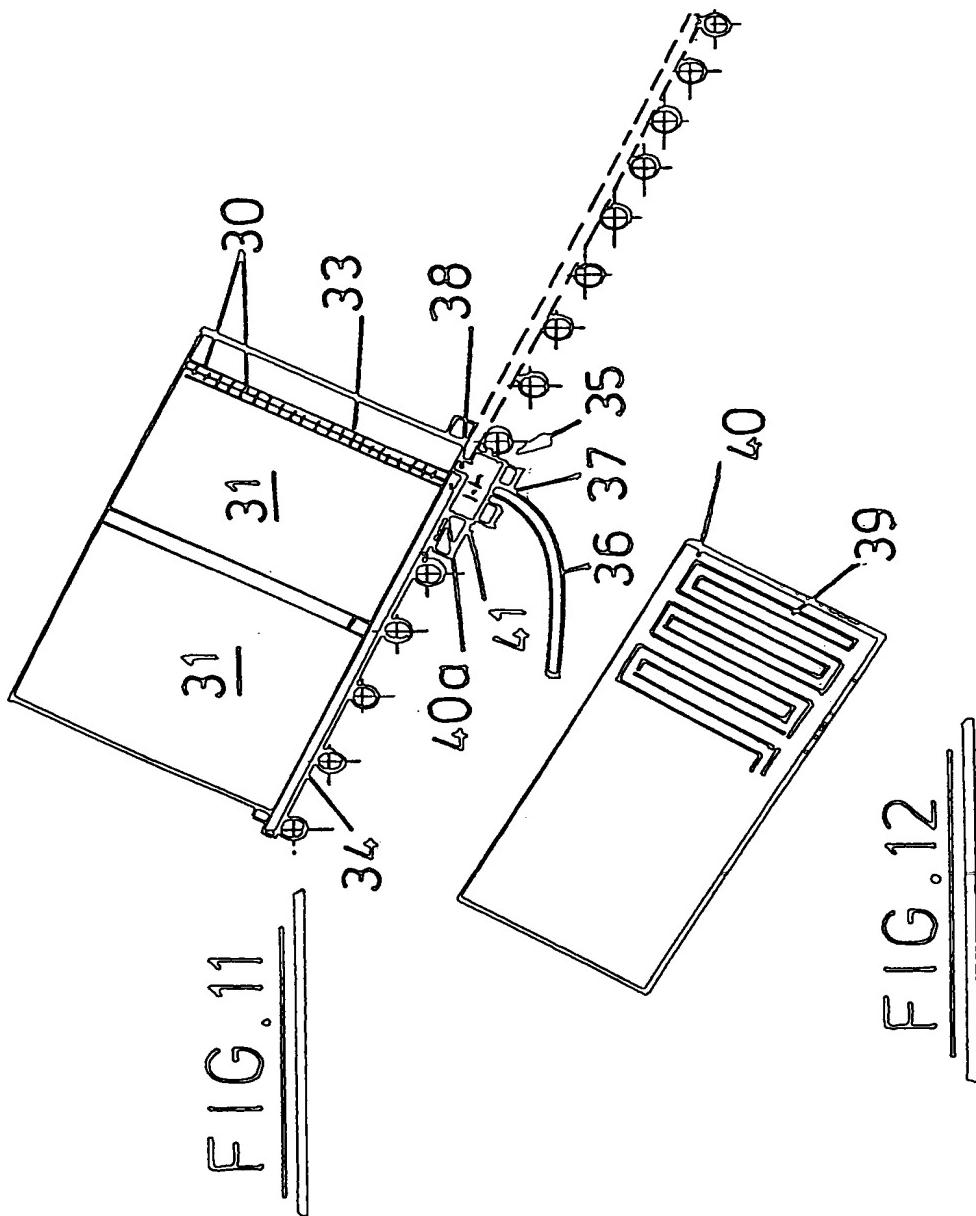
FIG. 8

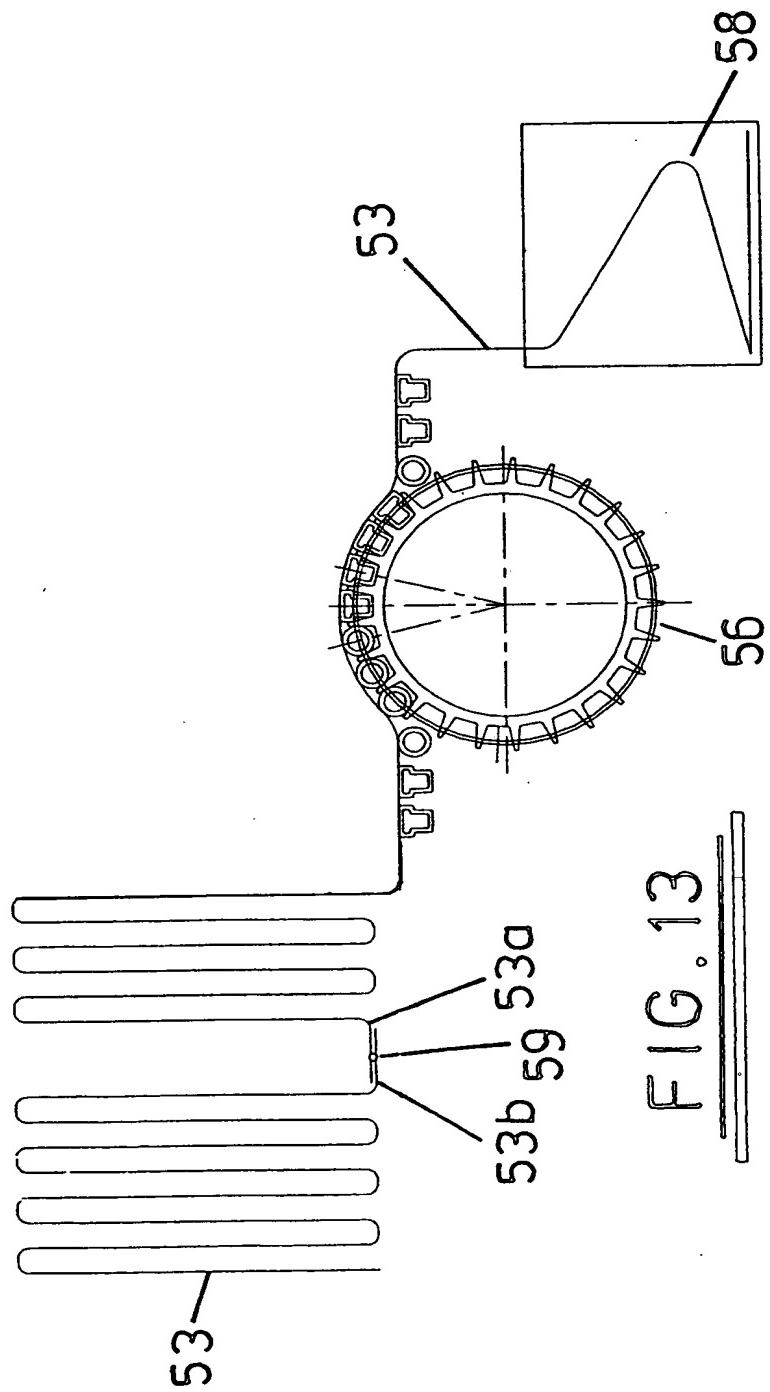
5-57

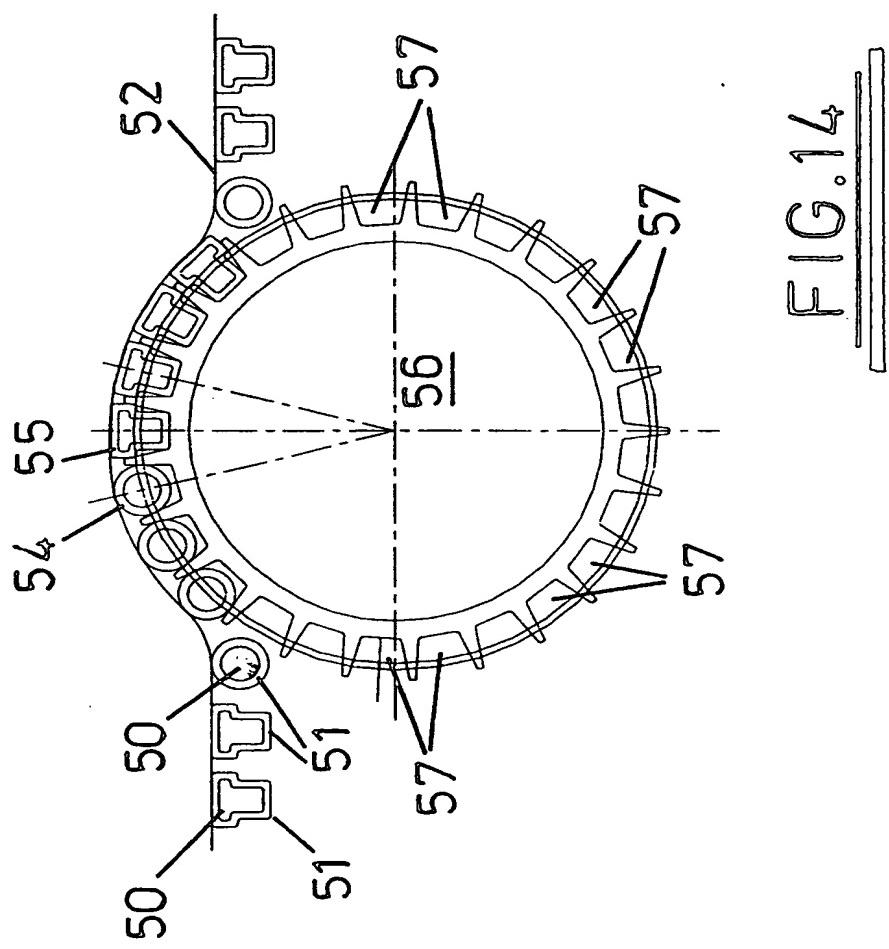
6-57

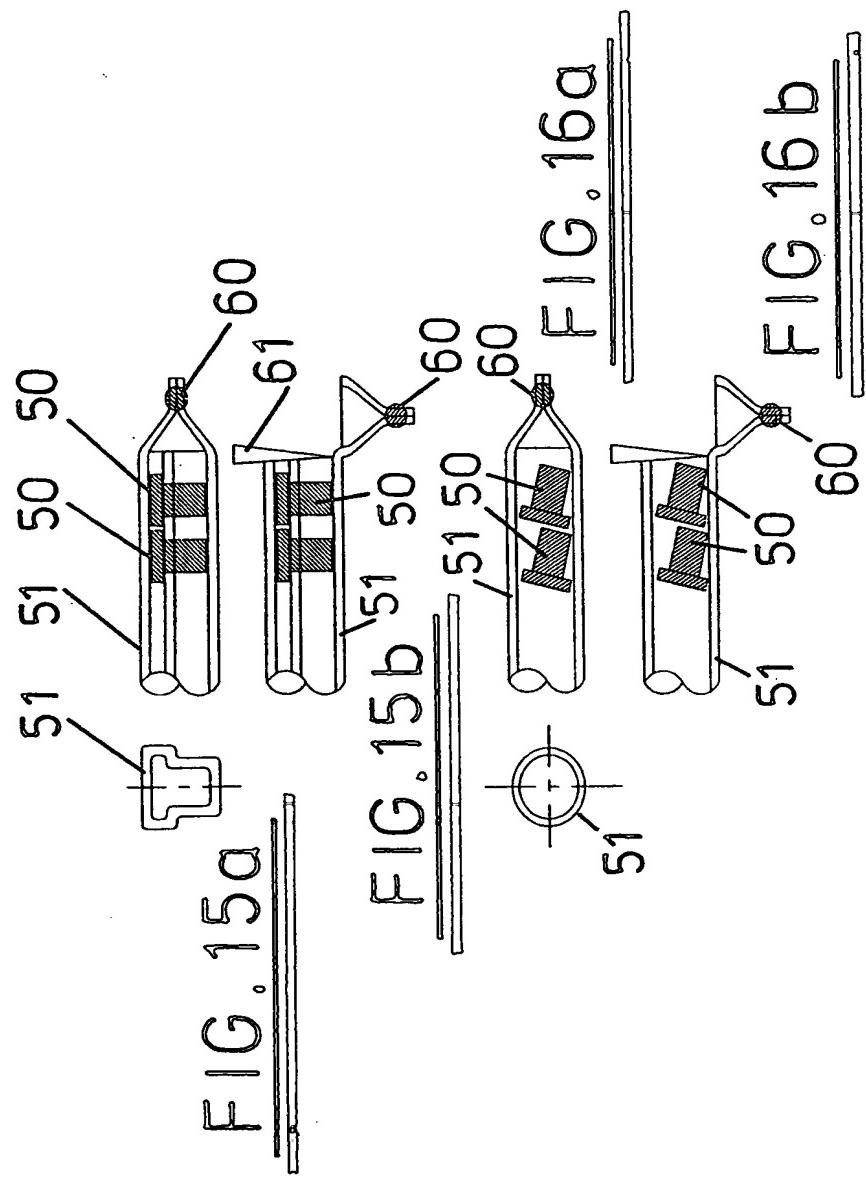
FIG. 10

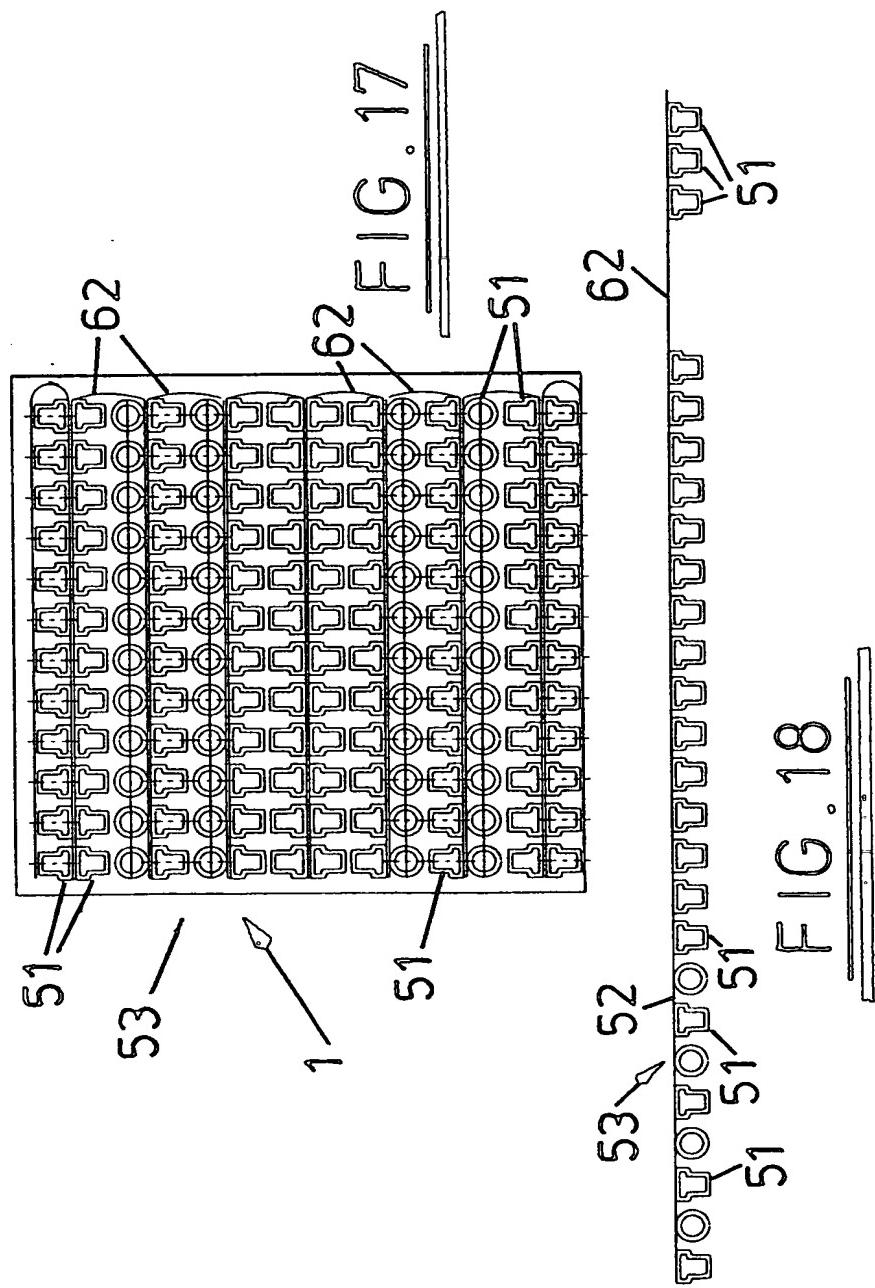


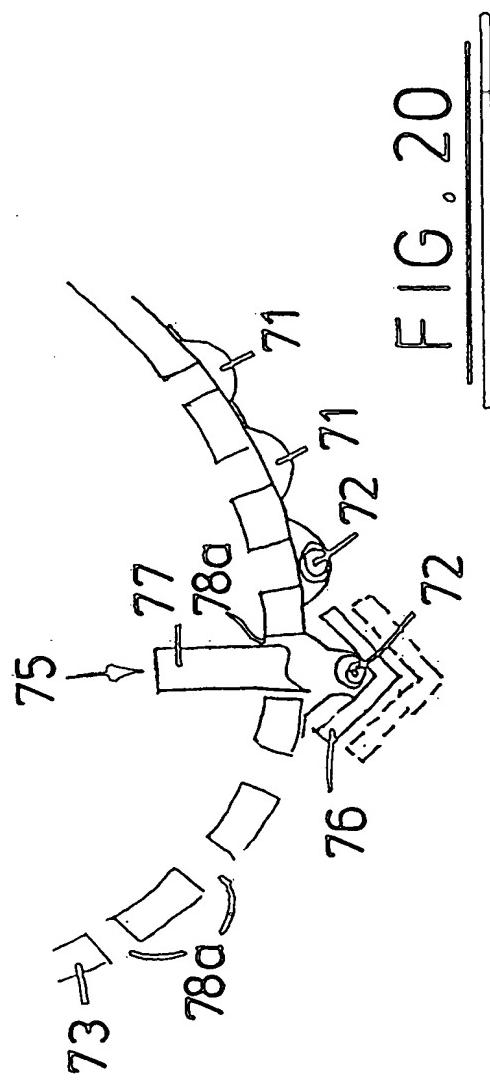
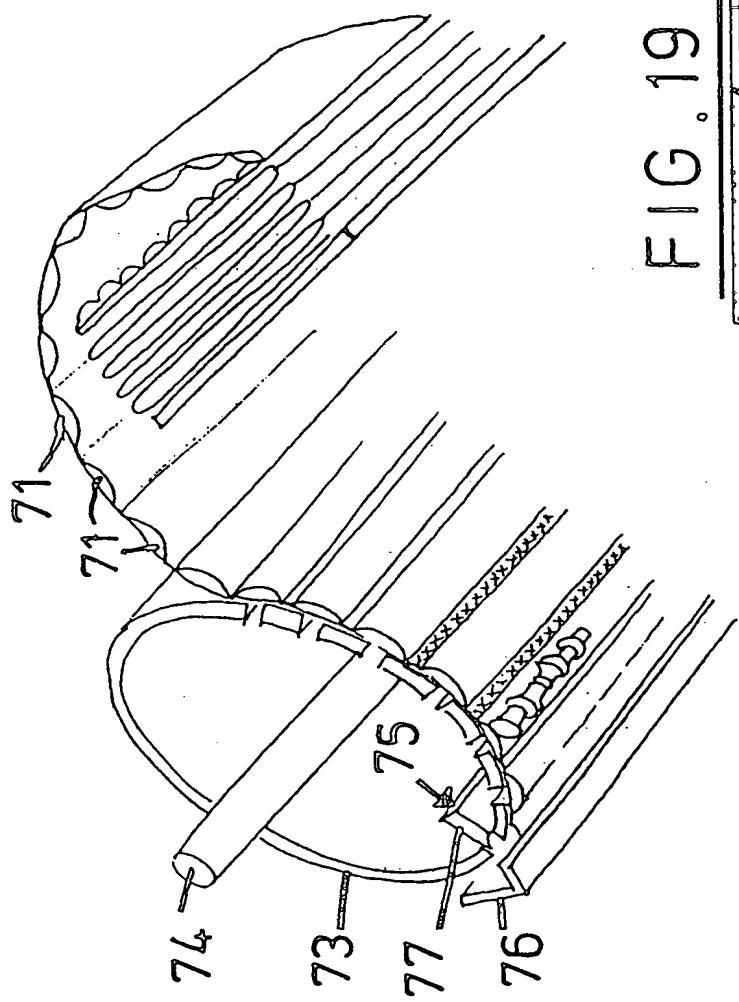
7-57

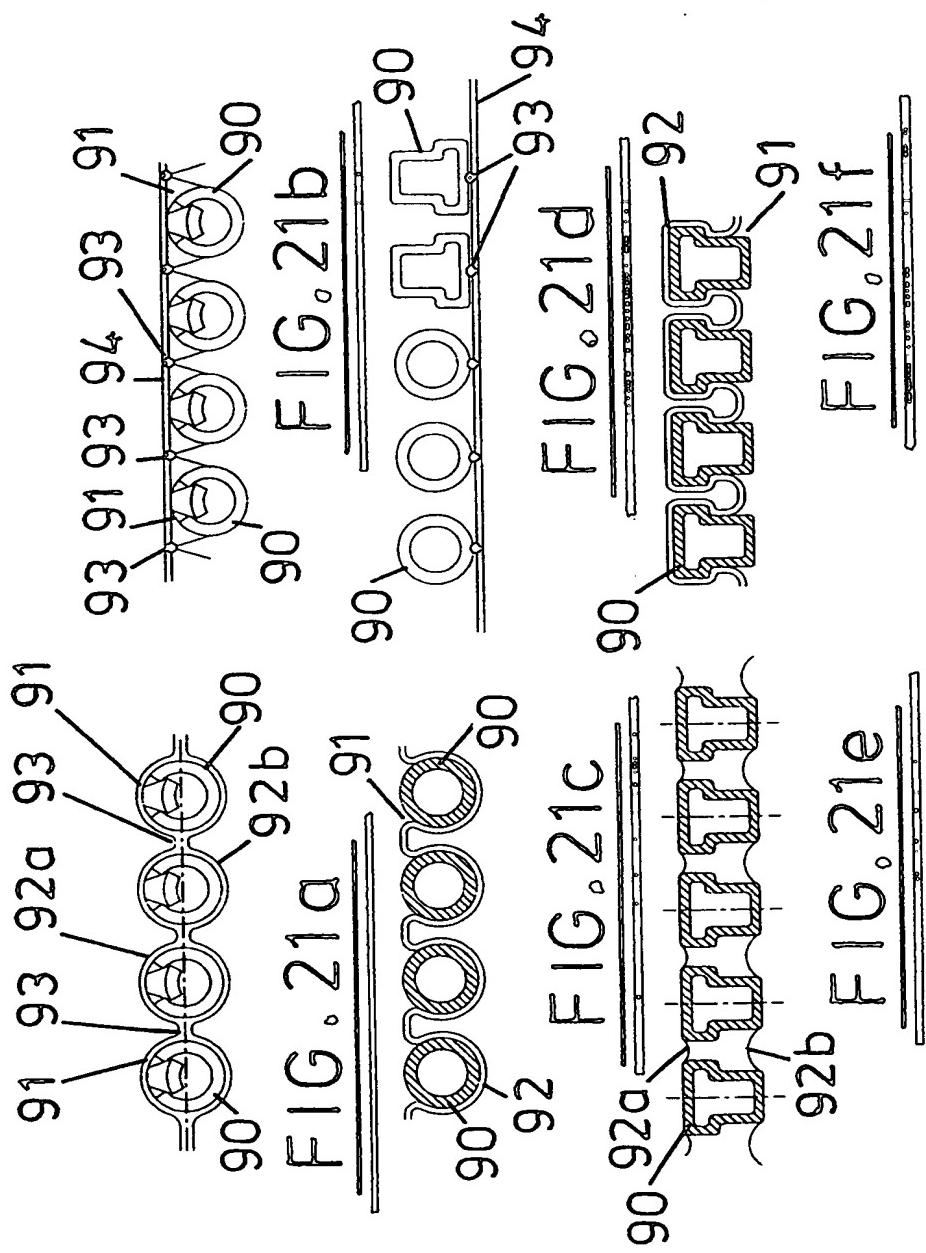
8-57

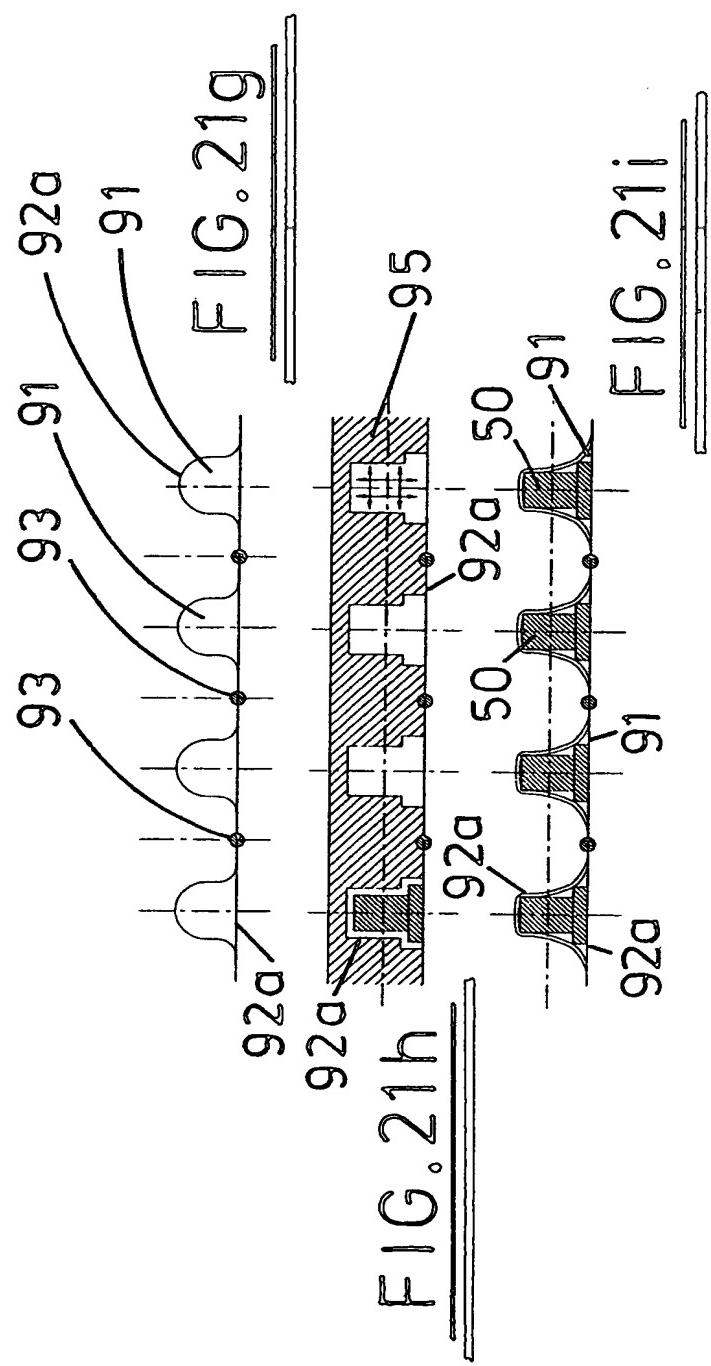
9-57

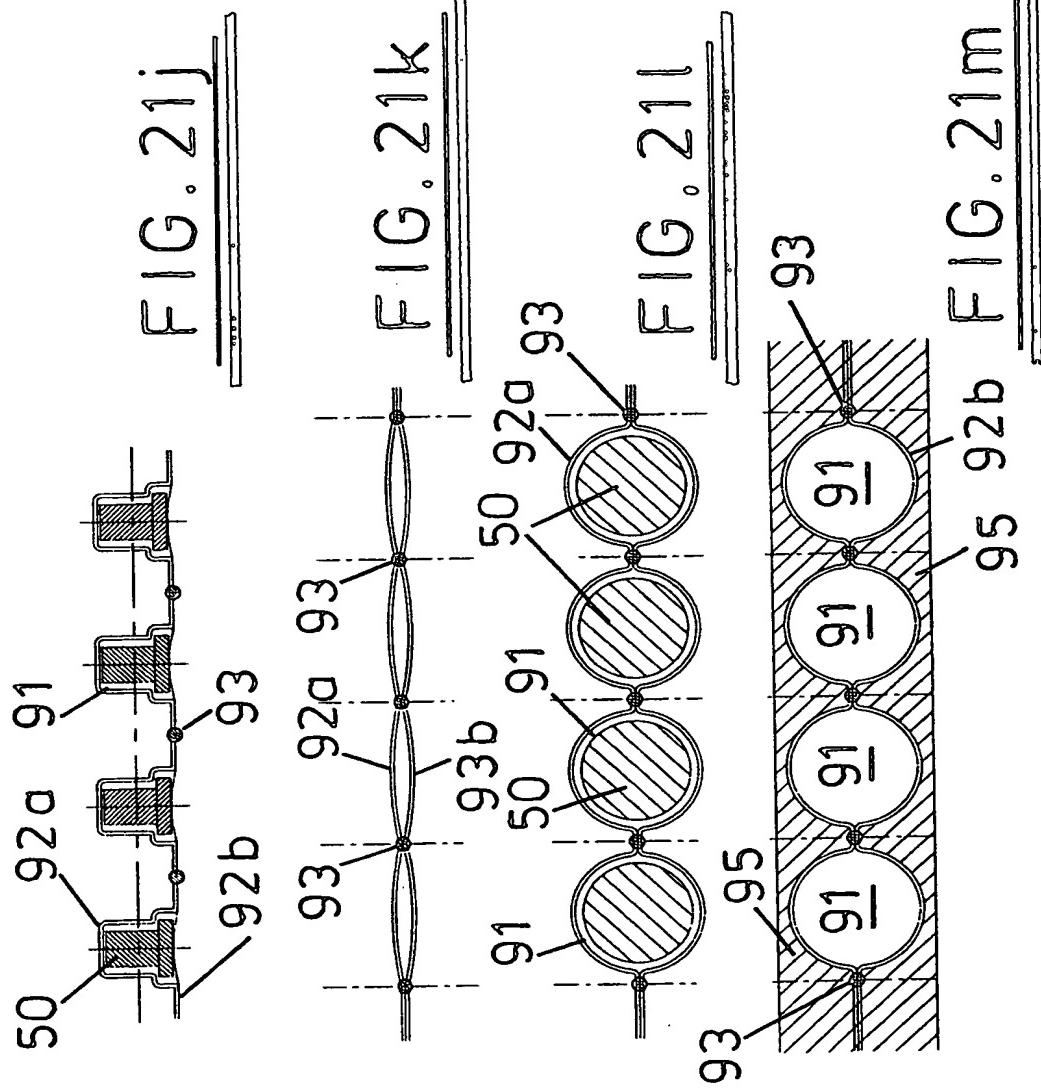
10-57

11-57

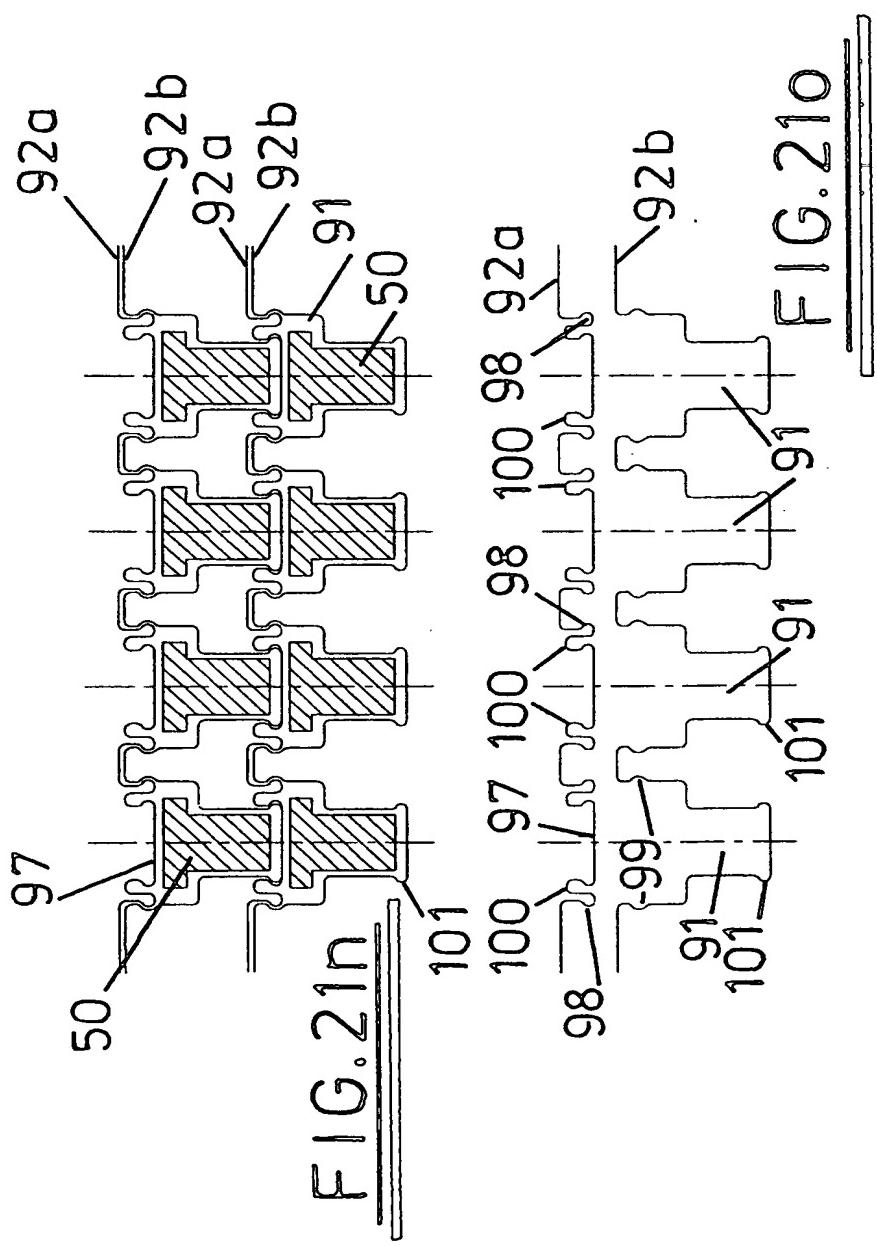
12-57

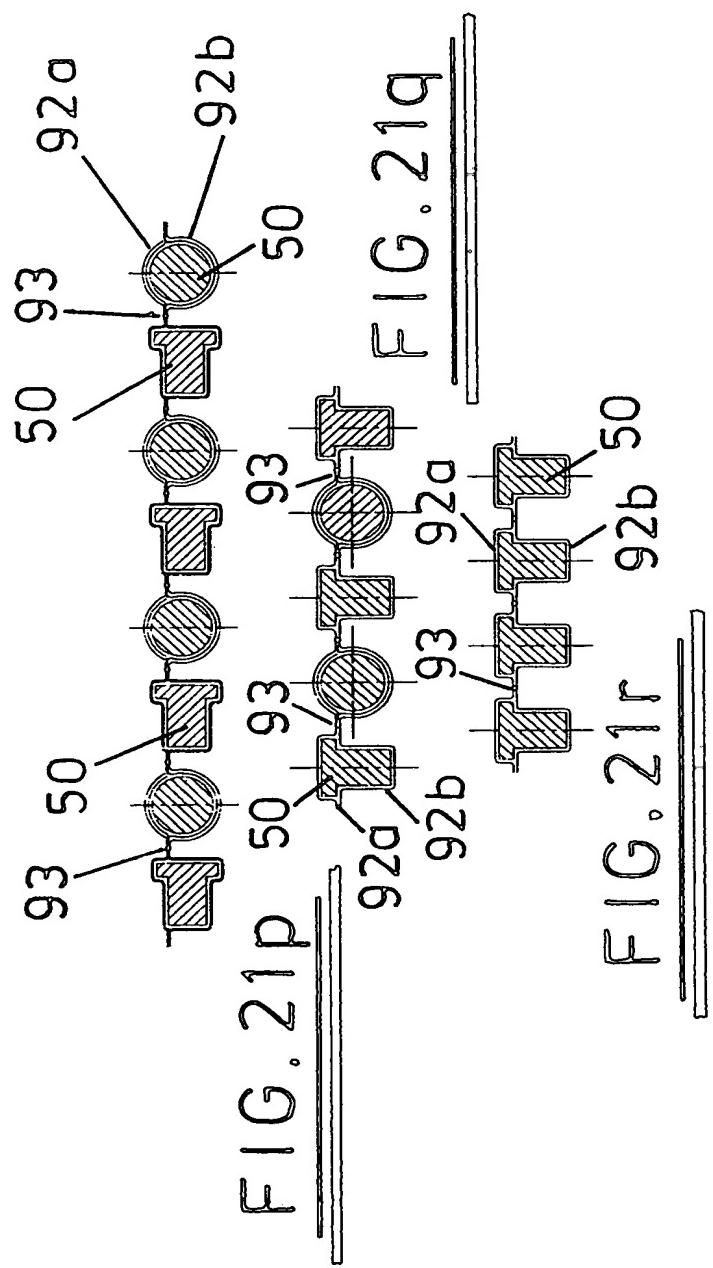
13-57

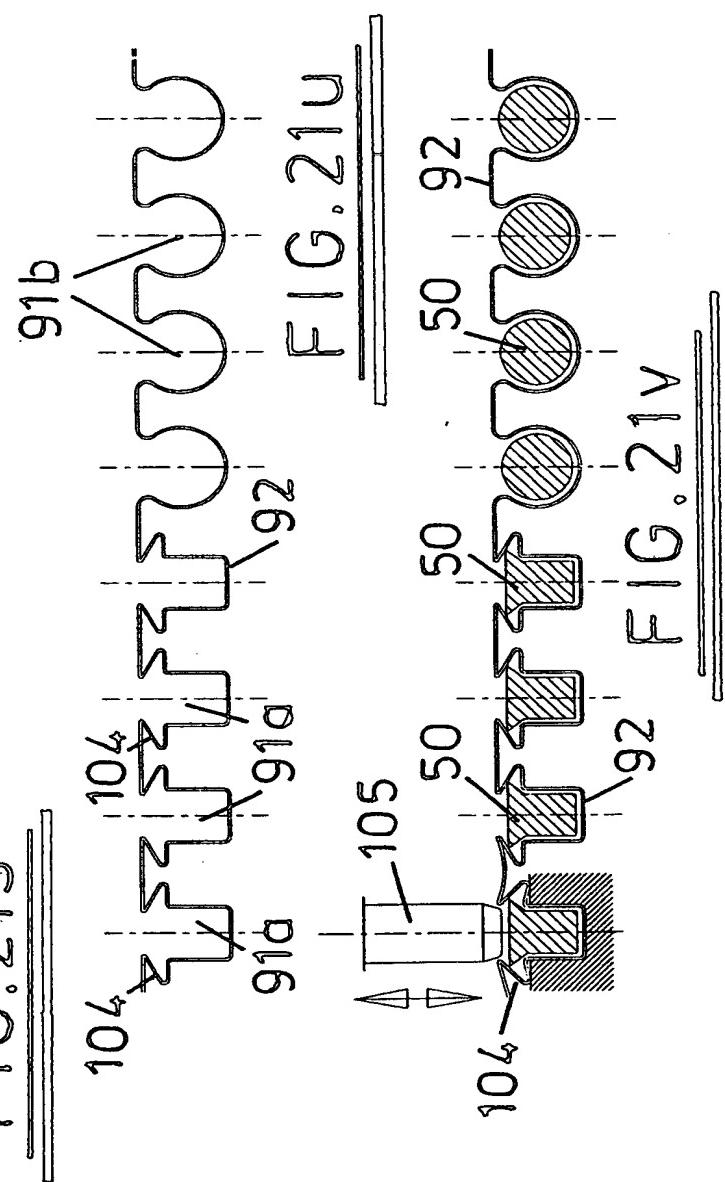
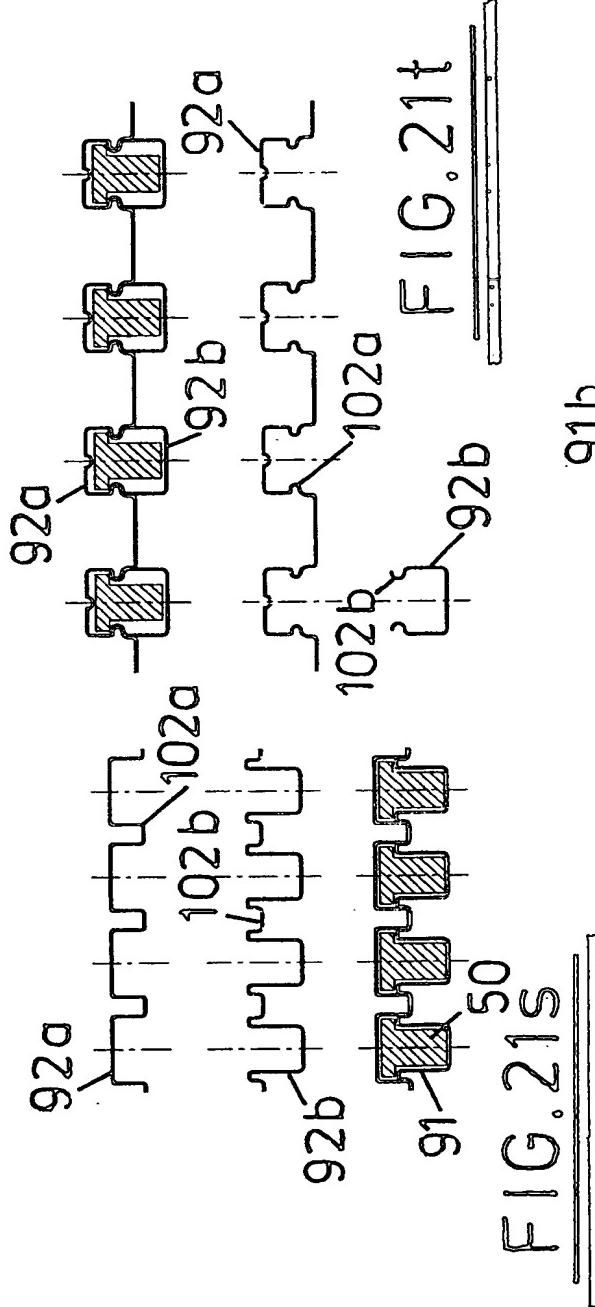
14-57

1557

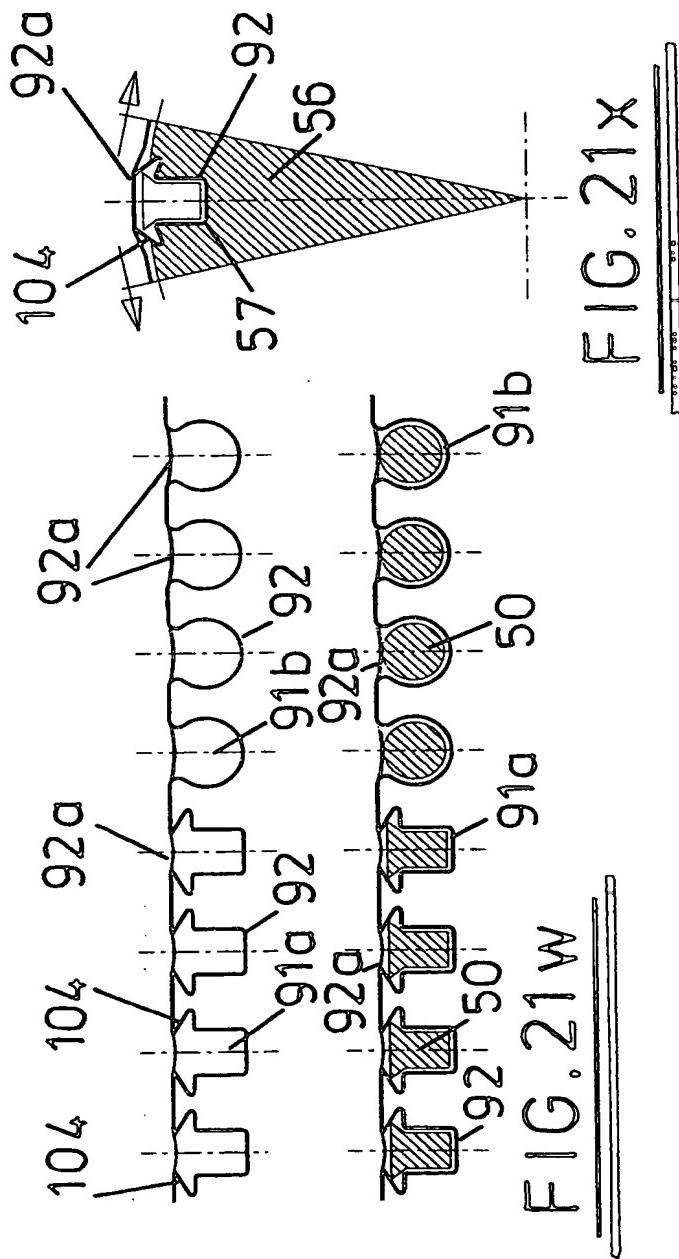
16-57

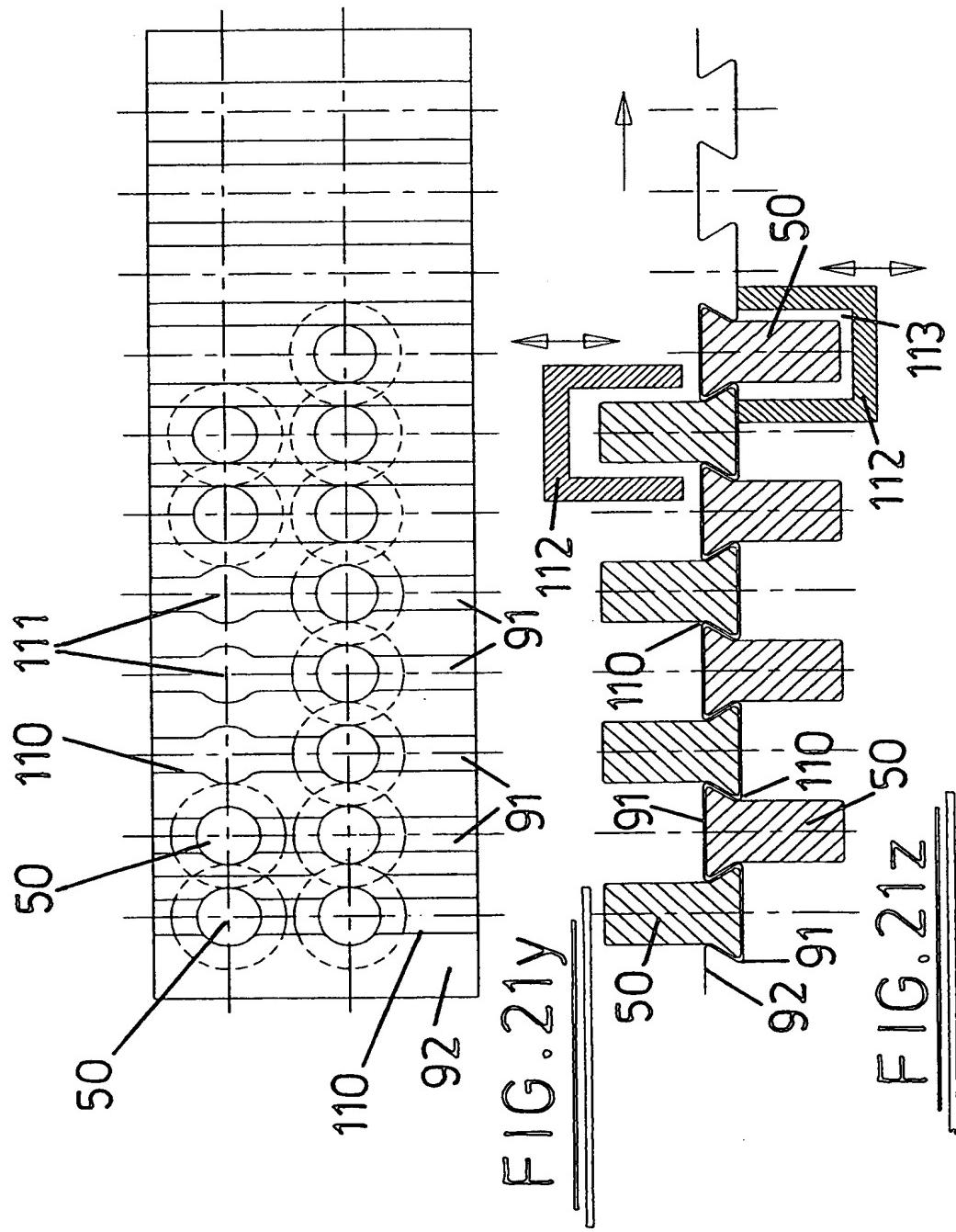


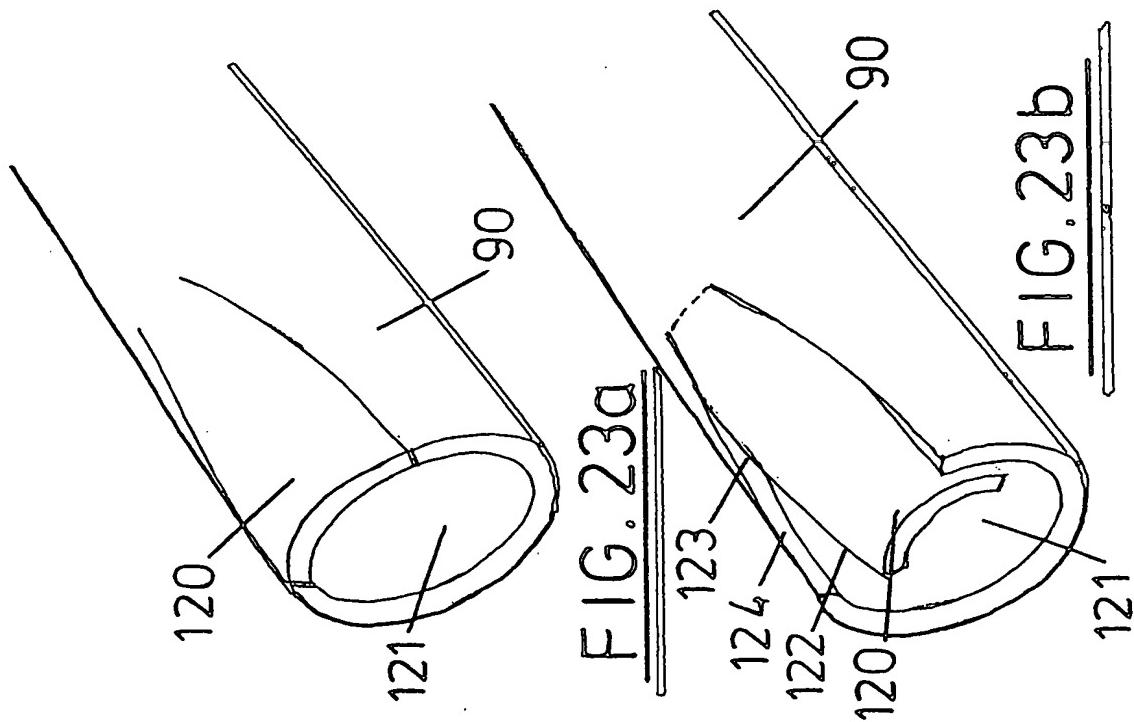
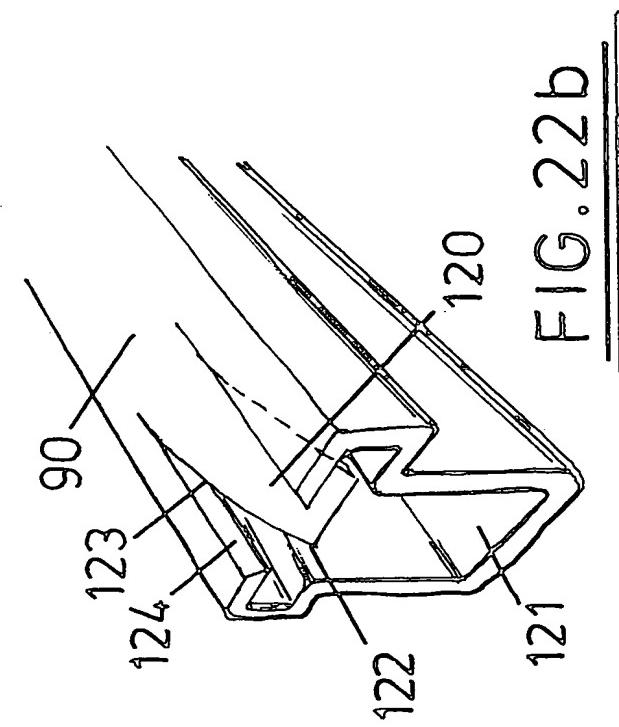
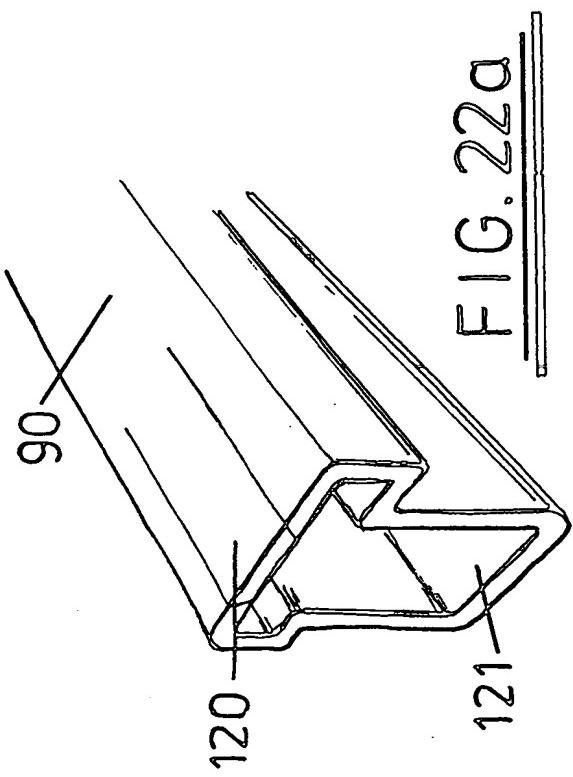
17-57

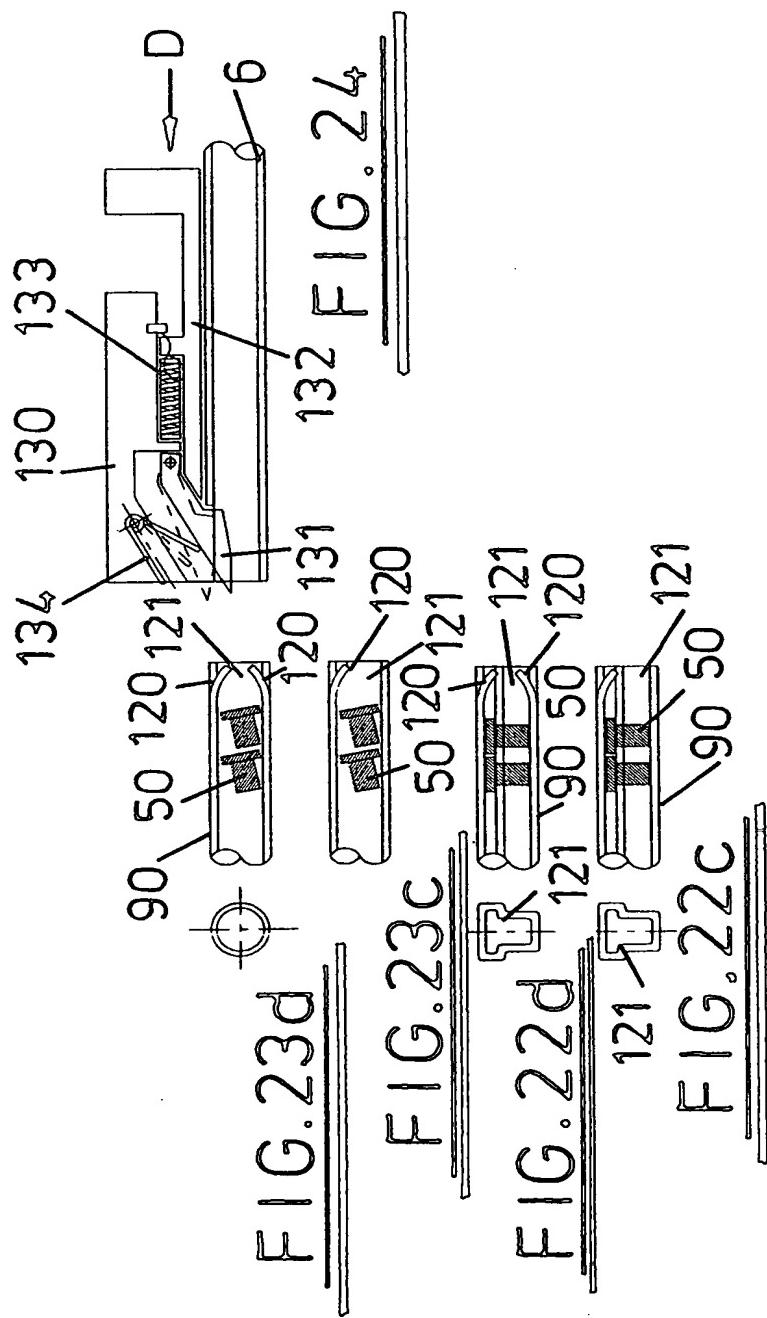
18-57

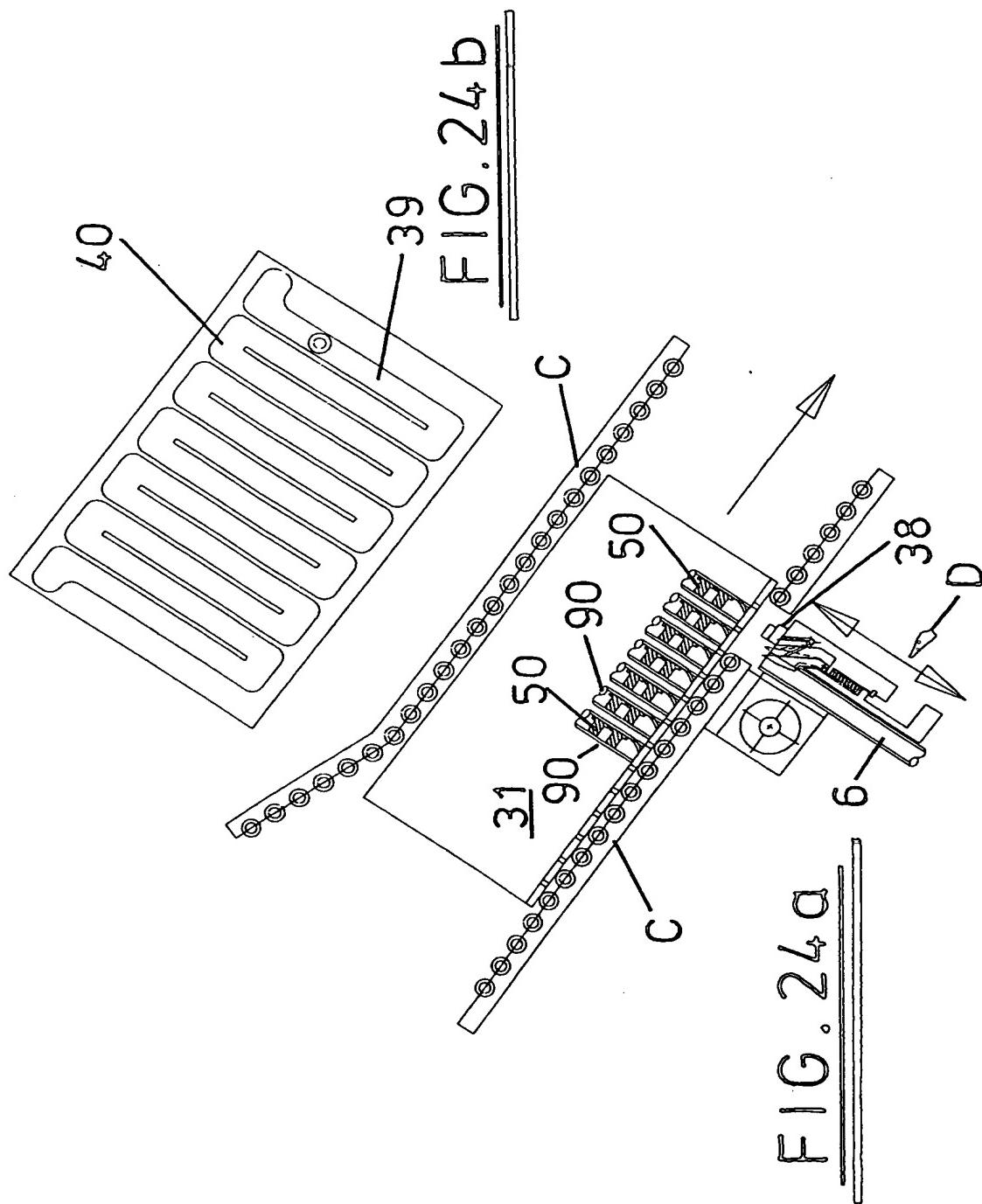
19-57

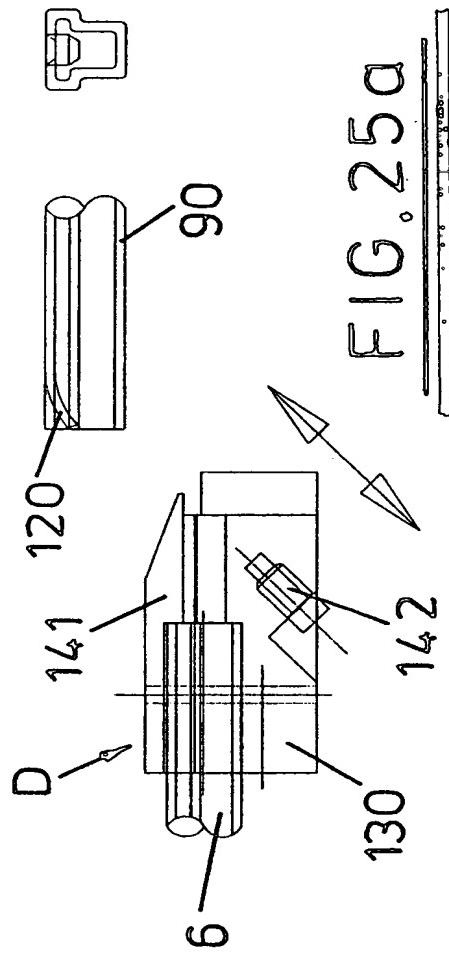
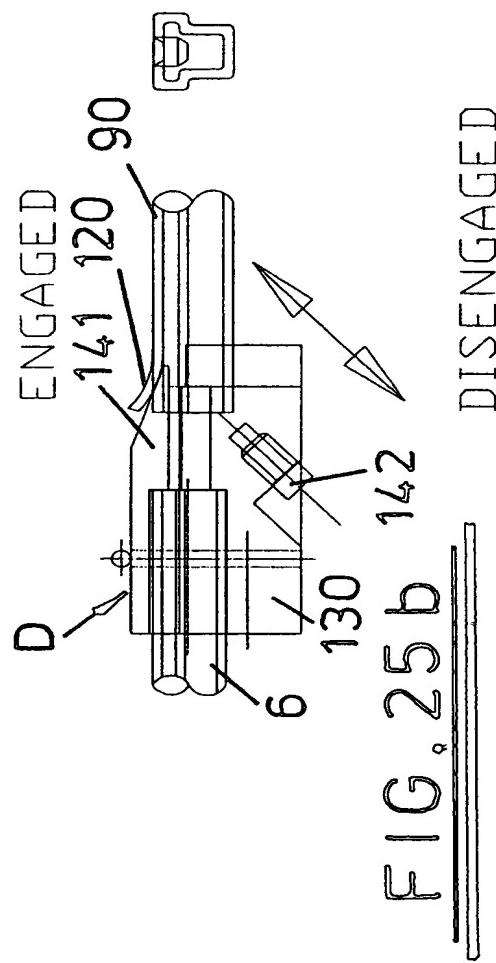


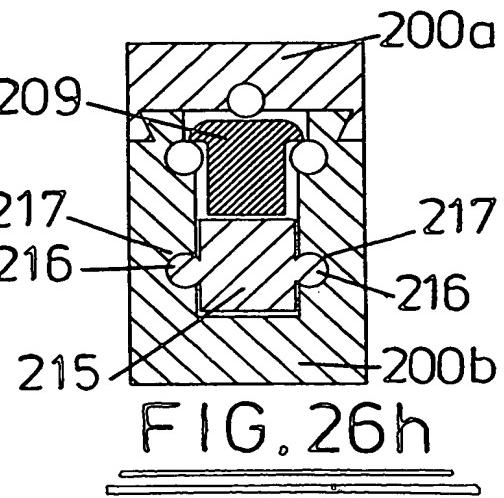
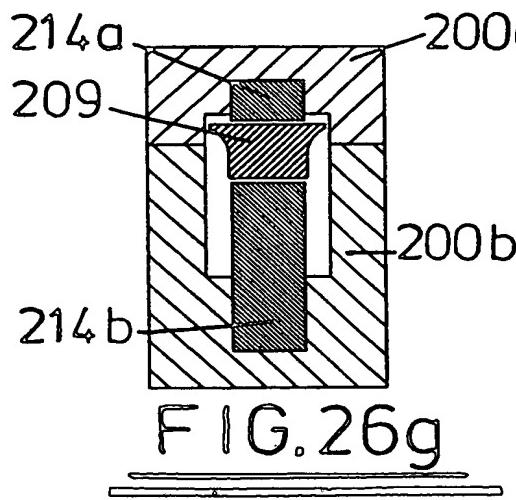
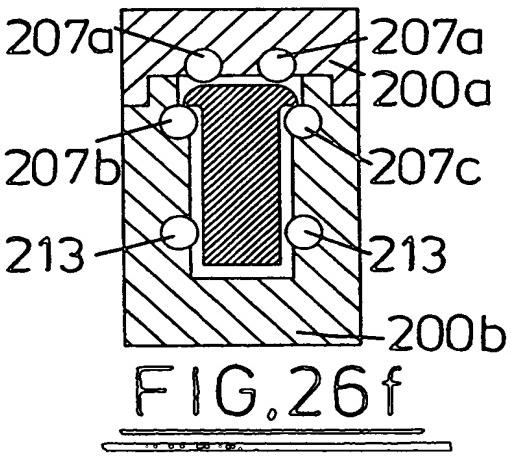
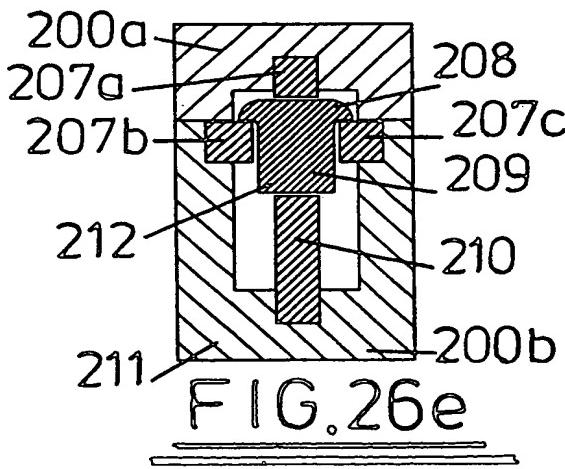
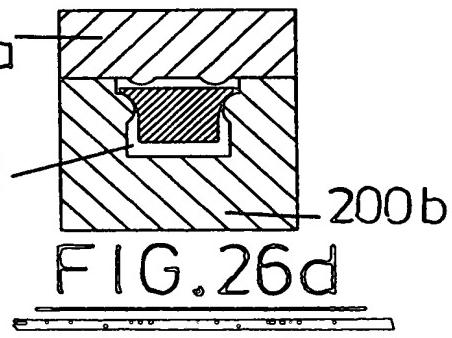
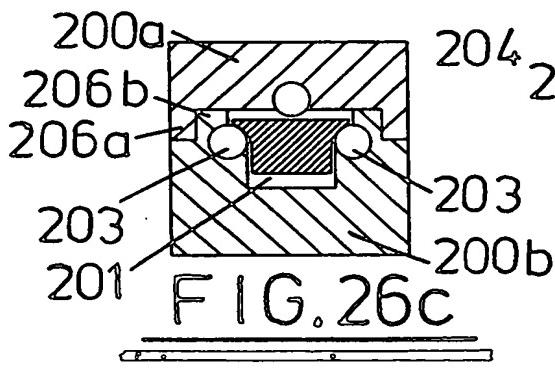
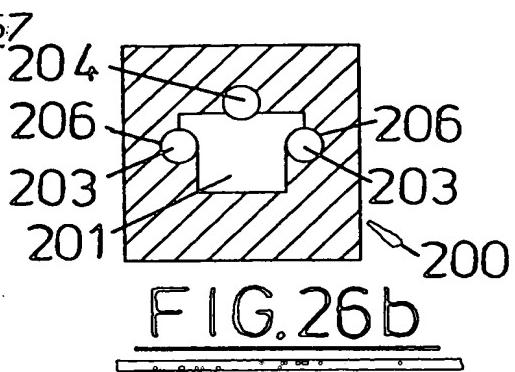
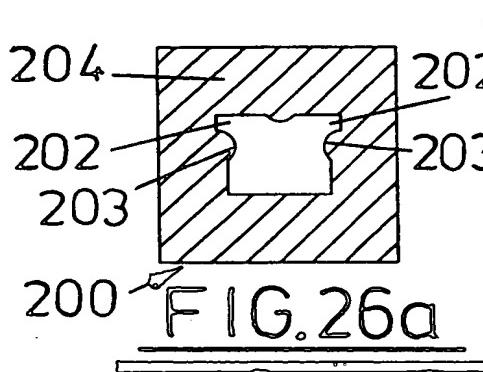
20-57

21-57

22-57

2357

24-57



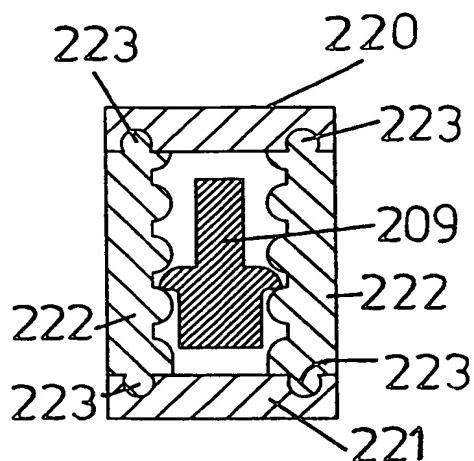
26-57

FIG. 26i

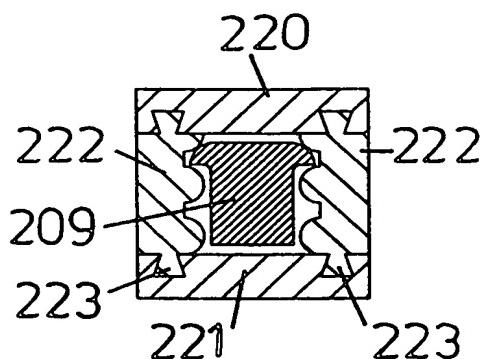


FIG. 26j

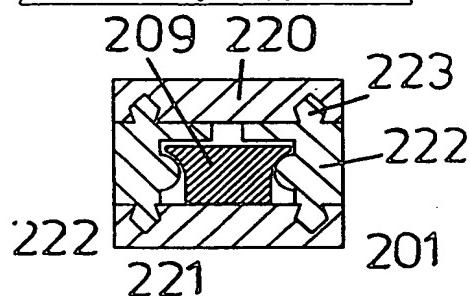


FIG. 26k

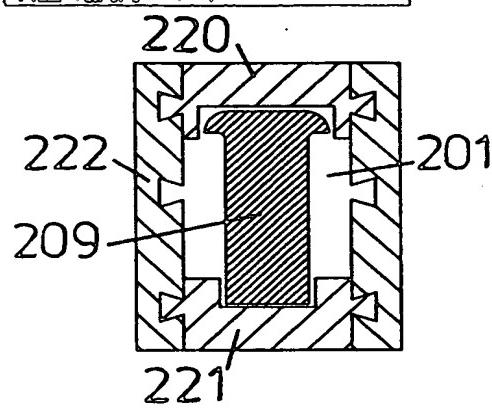


FIG. 26l

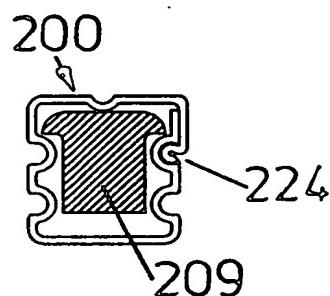
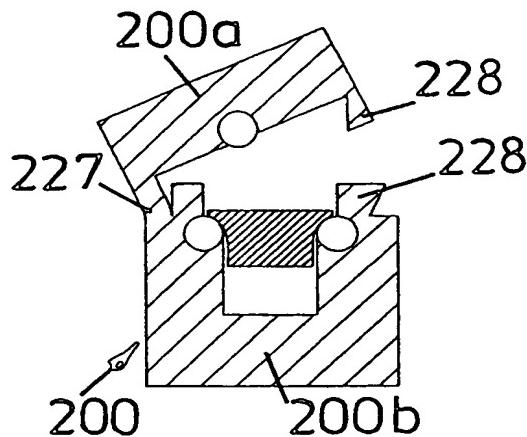
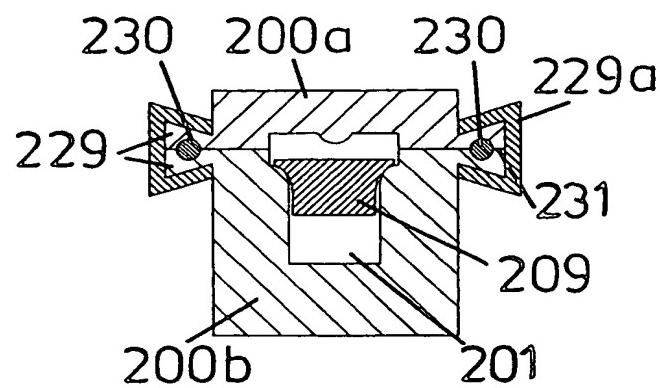
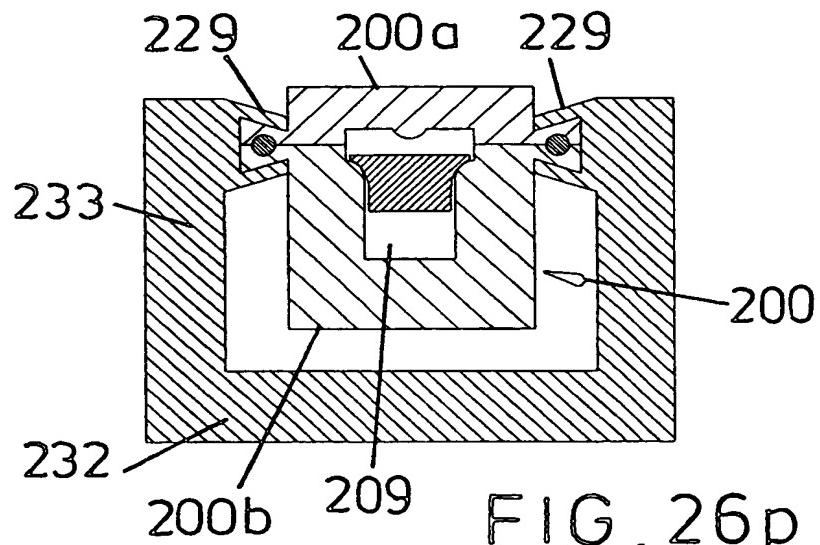
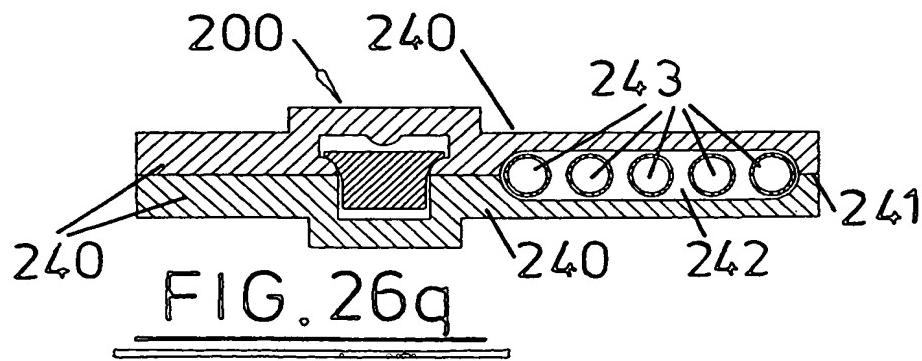


FIG. 26m

27-57FIG. 26nFIG. 26oFIG. 26pFIG. 26q

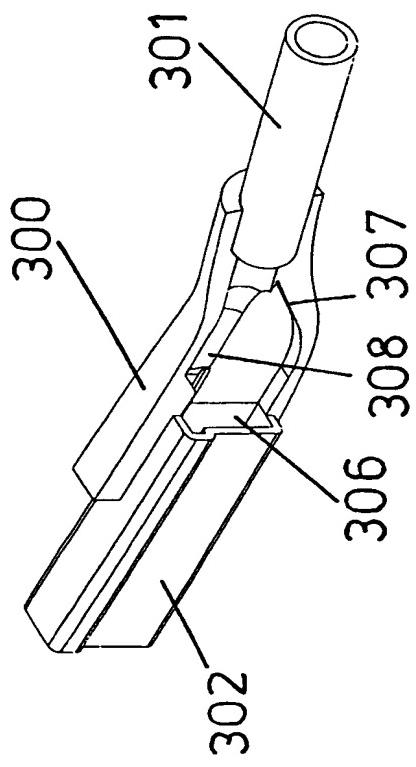
2857

FIG. 27a

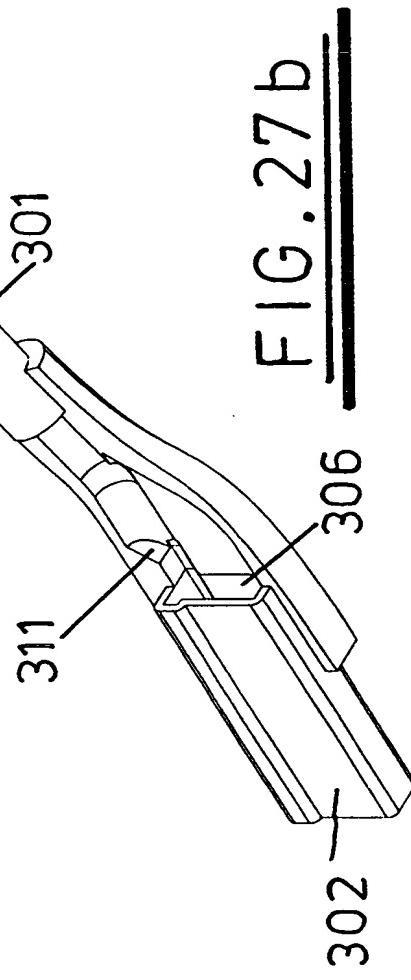
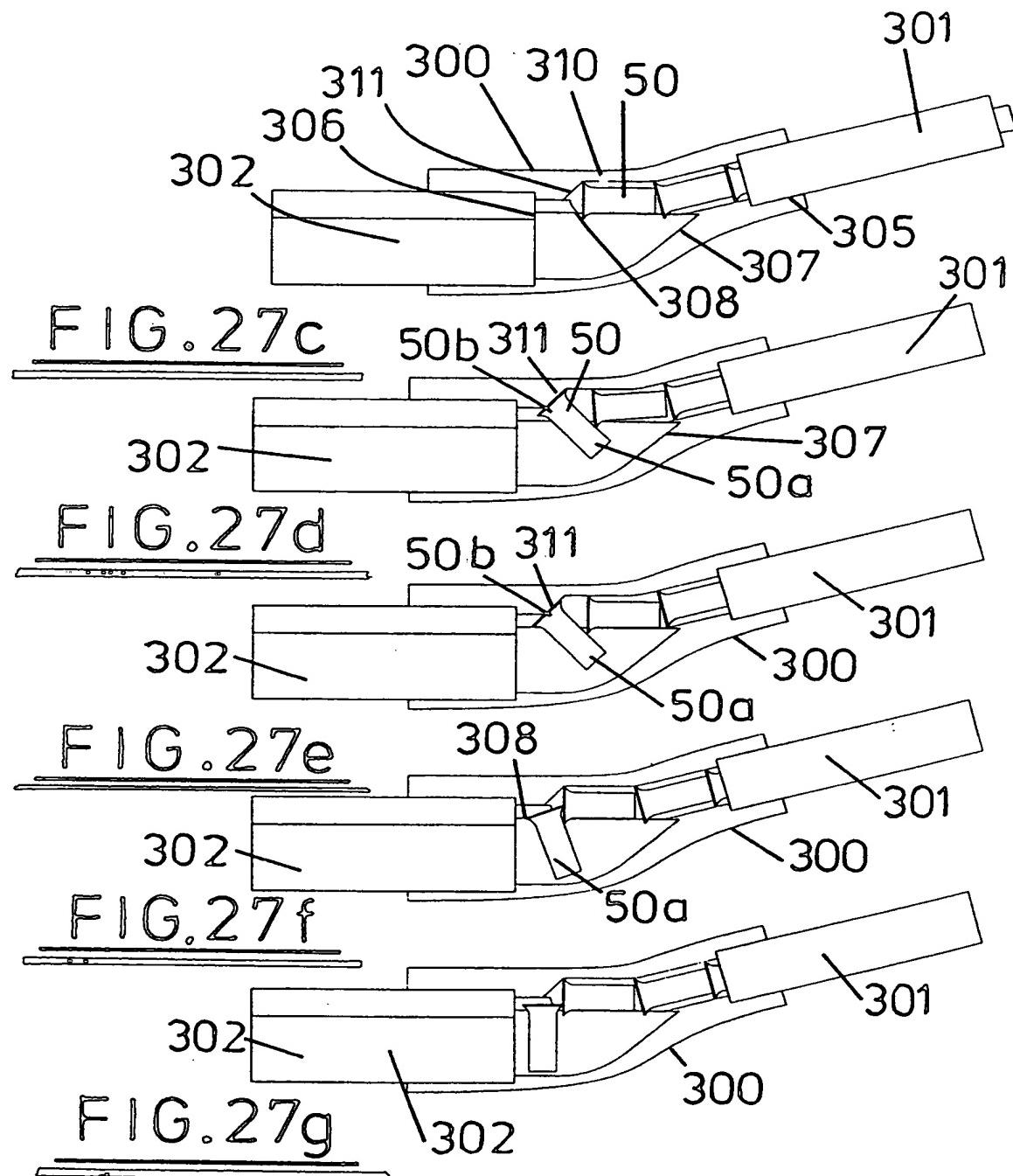


FIG. 27b

29-57

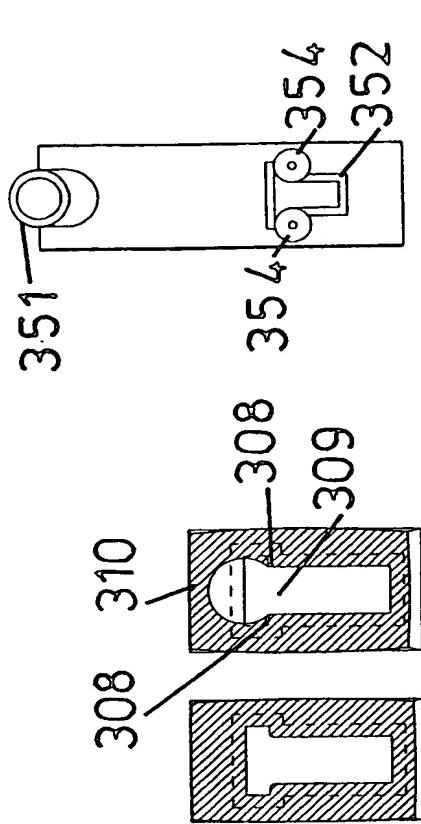
30-57

FIG. 28b

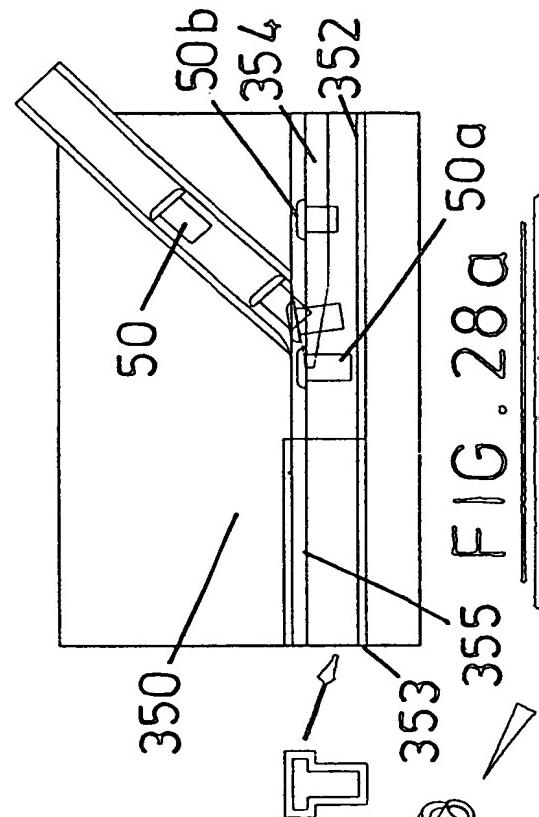


FIG. 28a

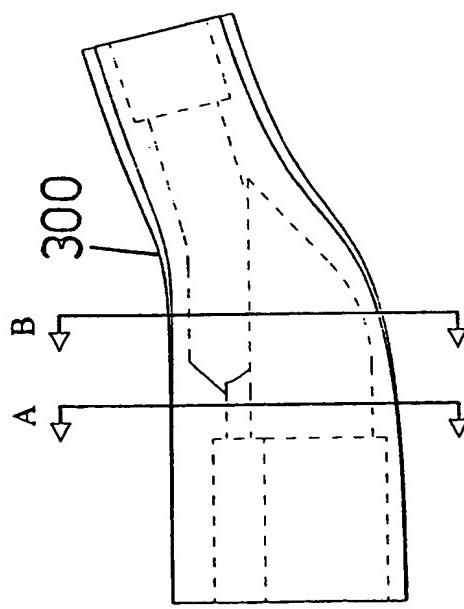
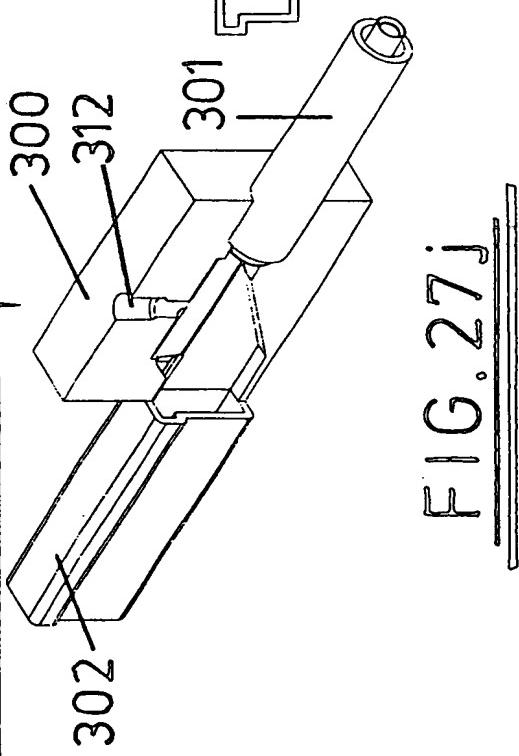
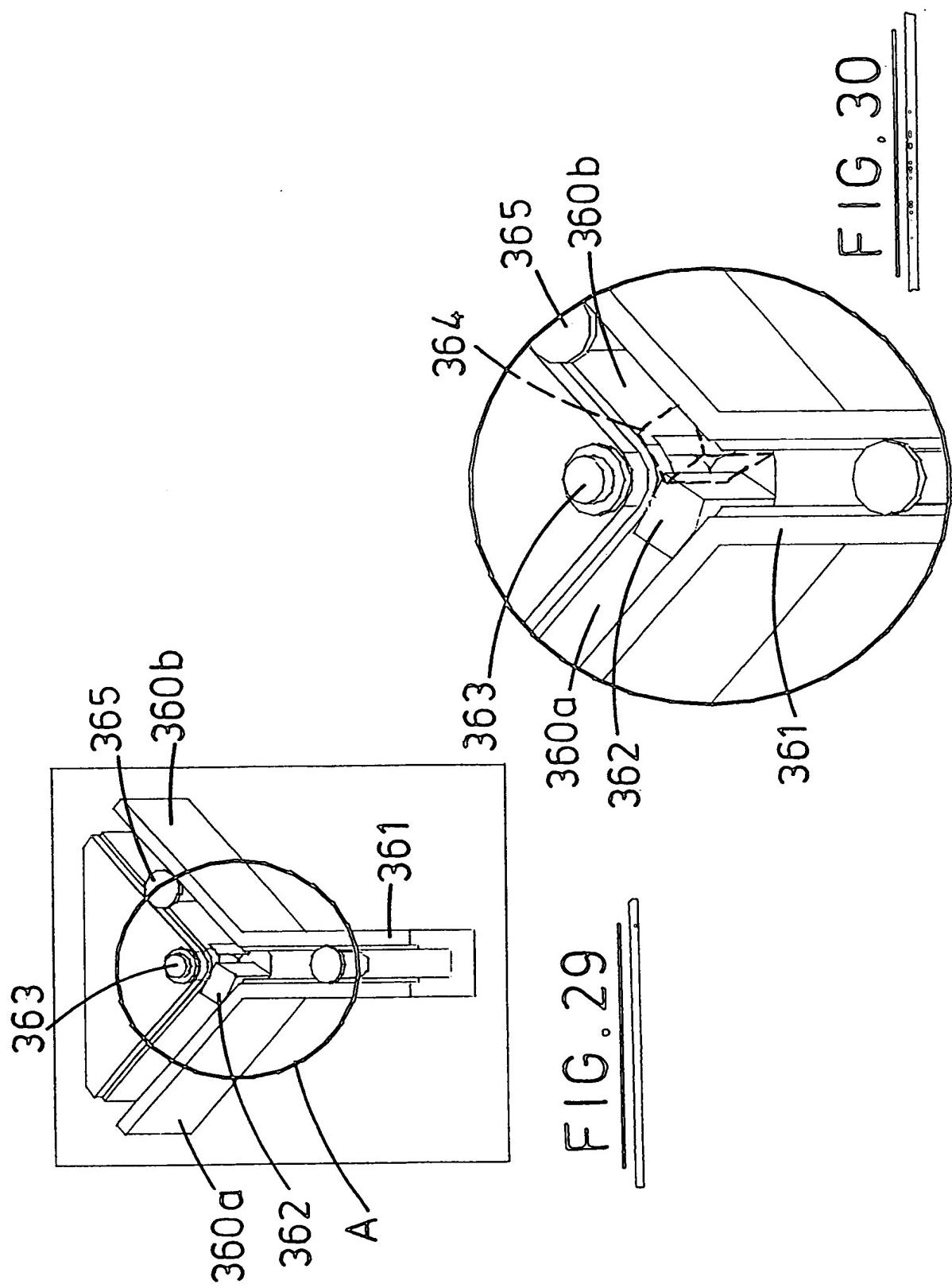


FIG. 27j



31-57

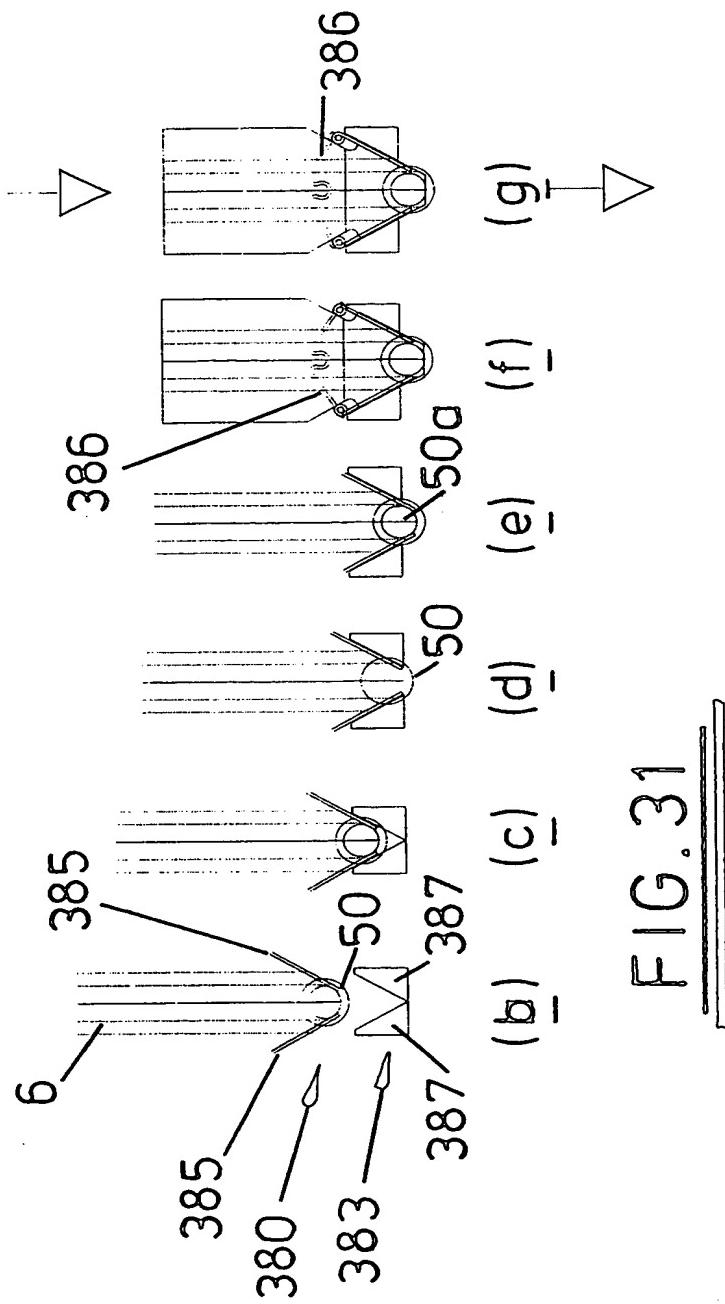
32.57

FIG. 31

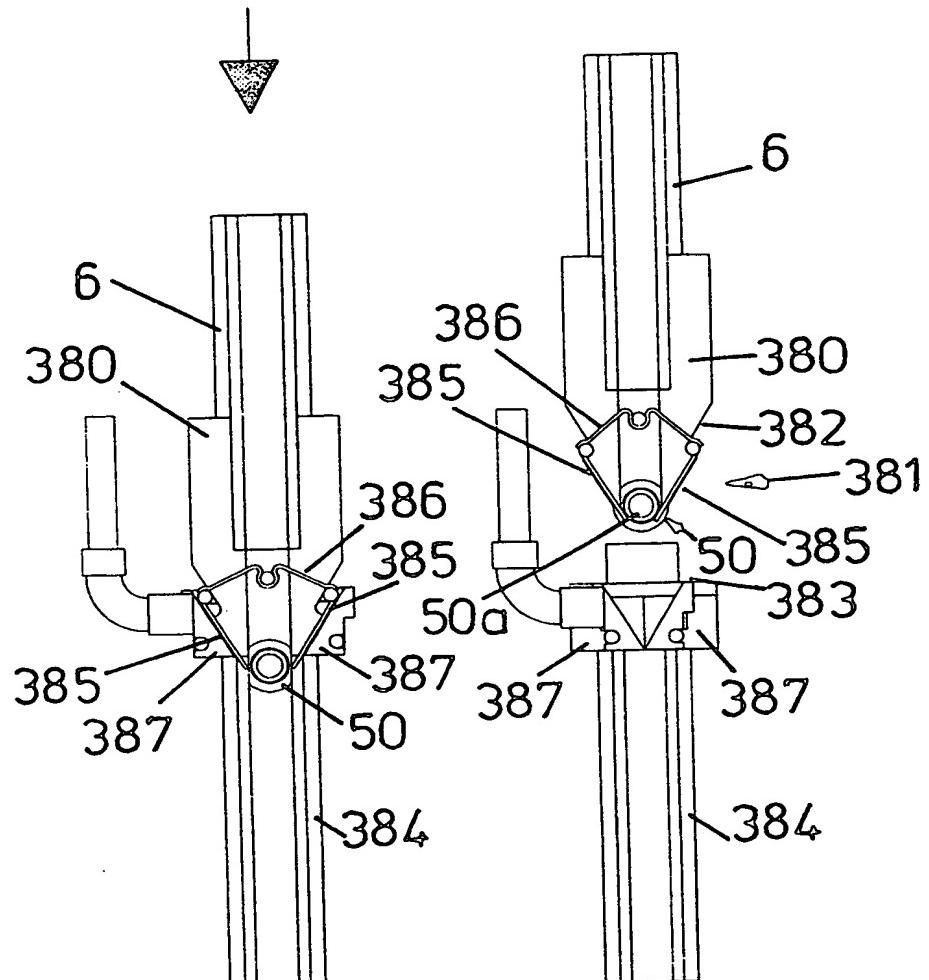
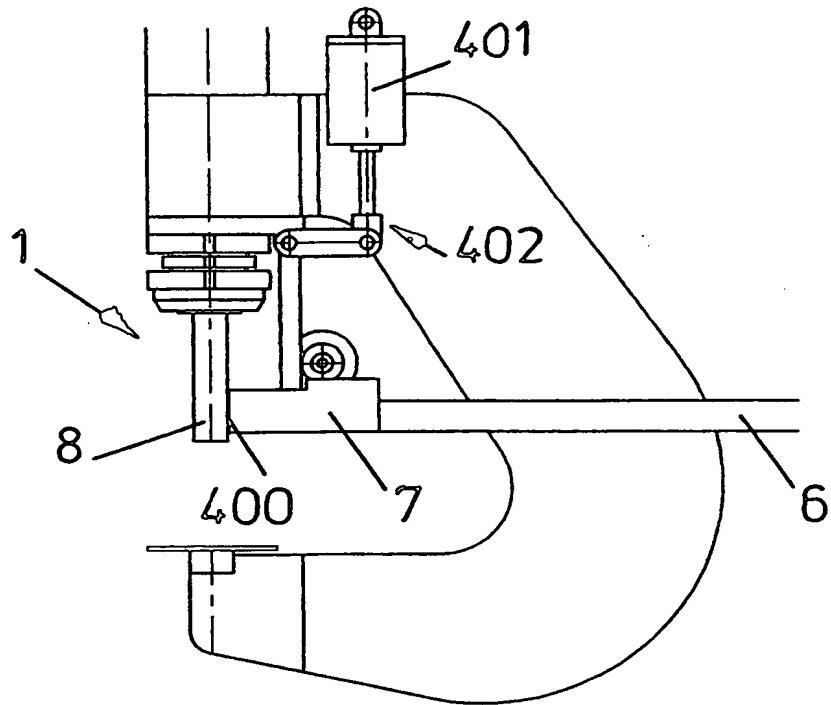
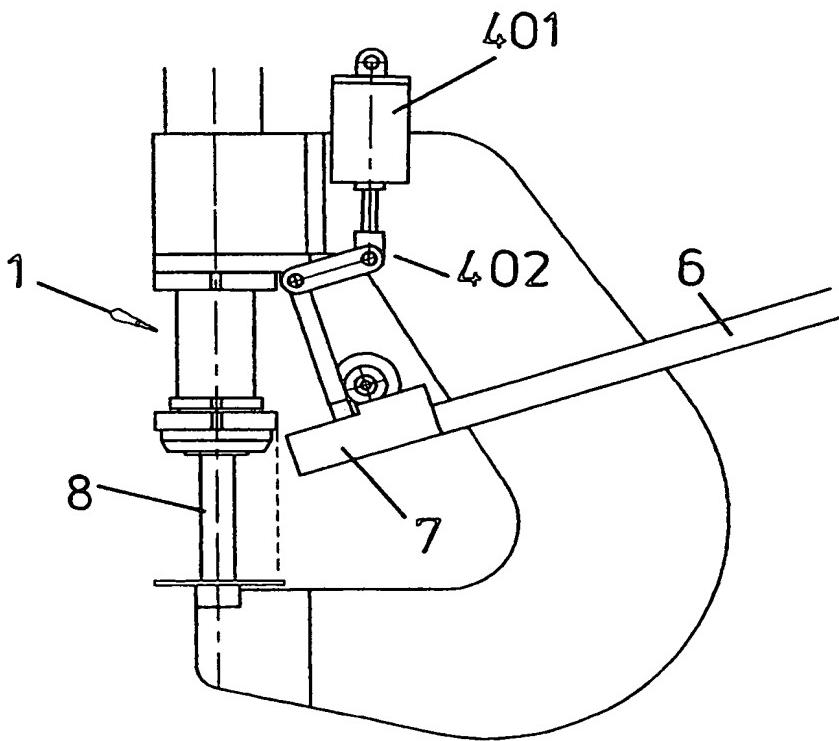
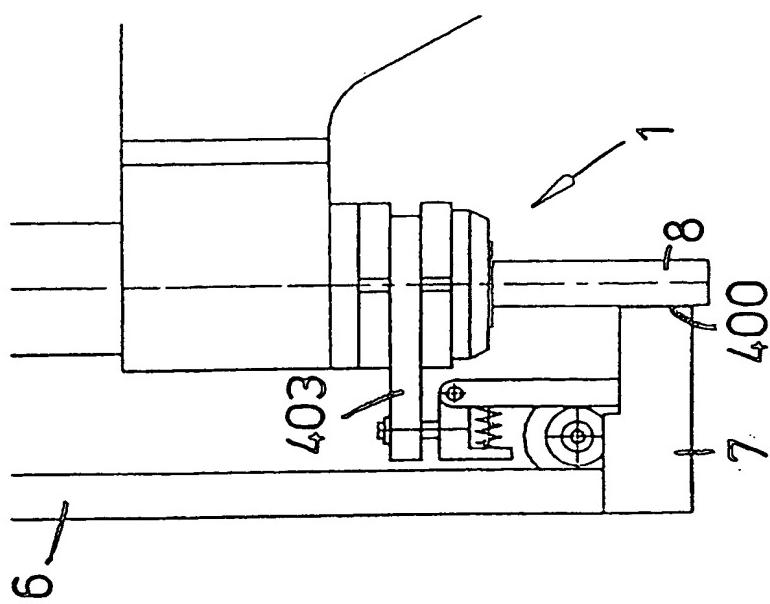
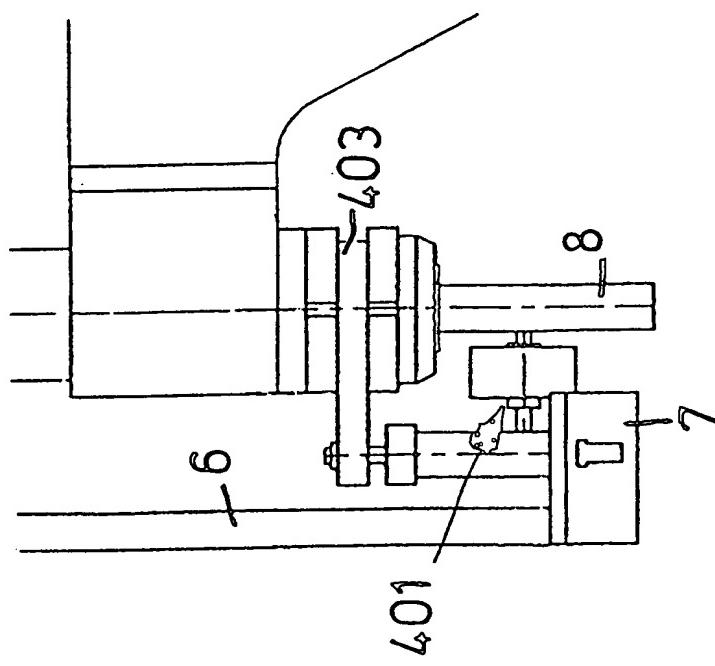
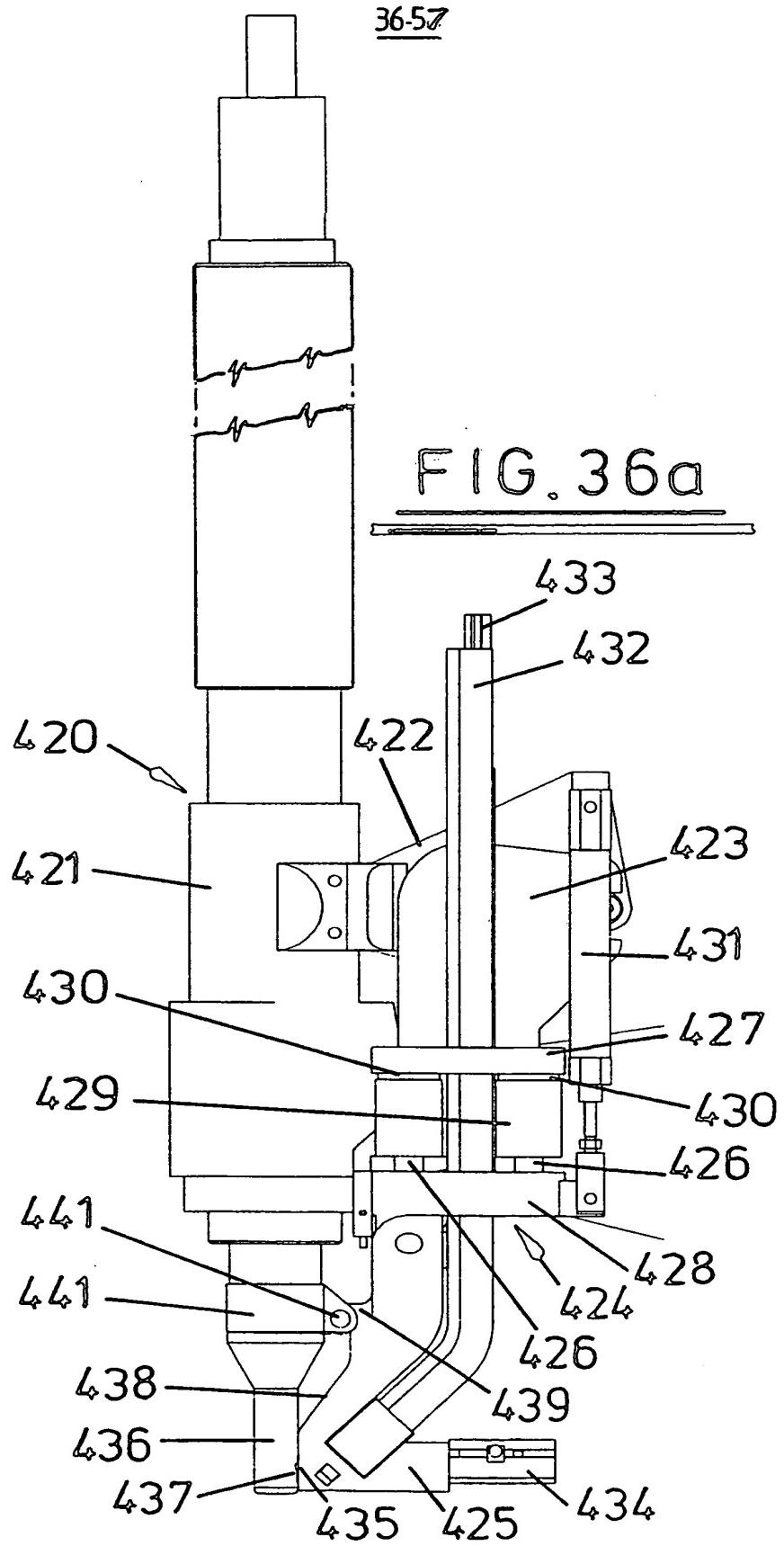
33-57

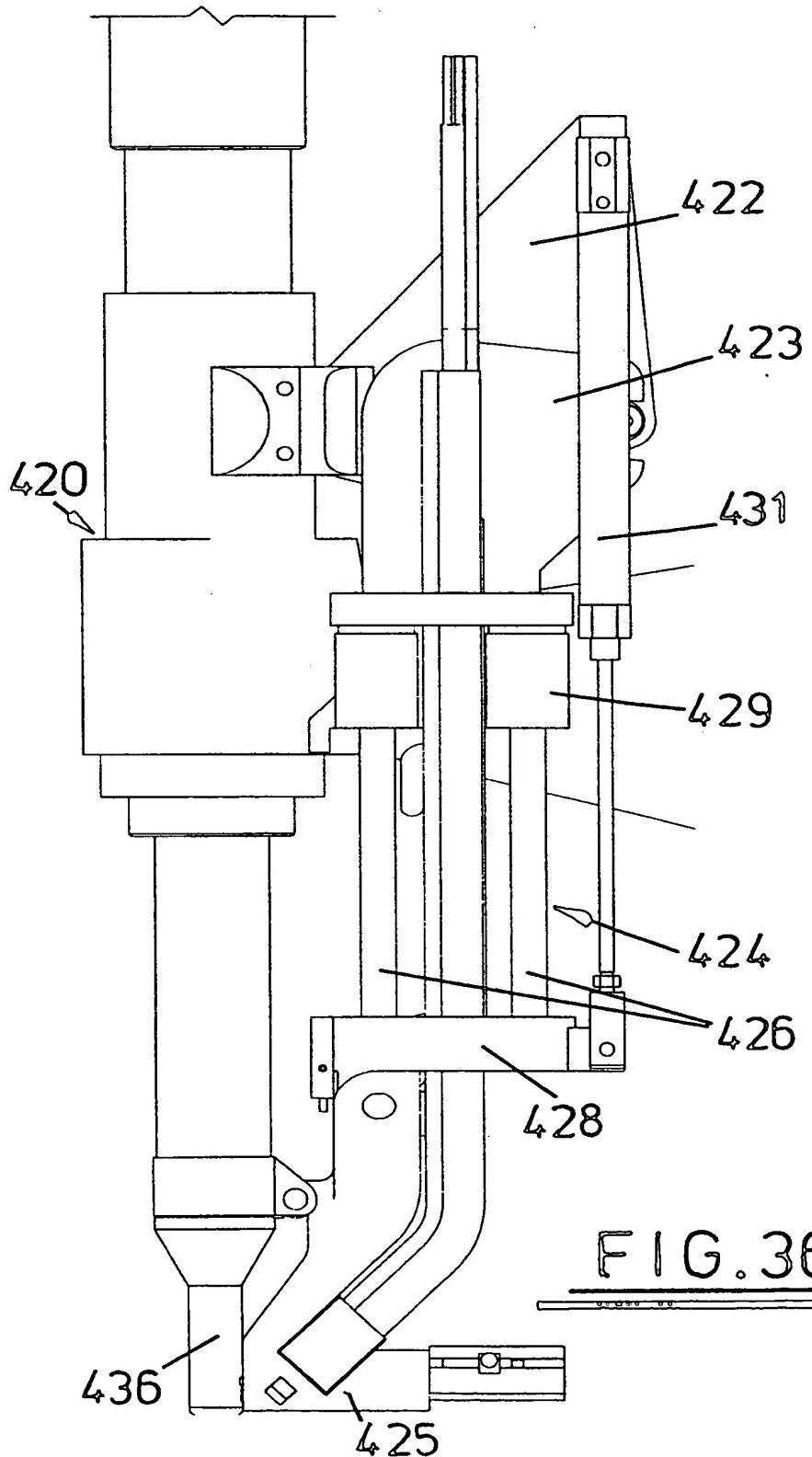
FIG. 31b

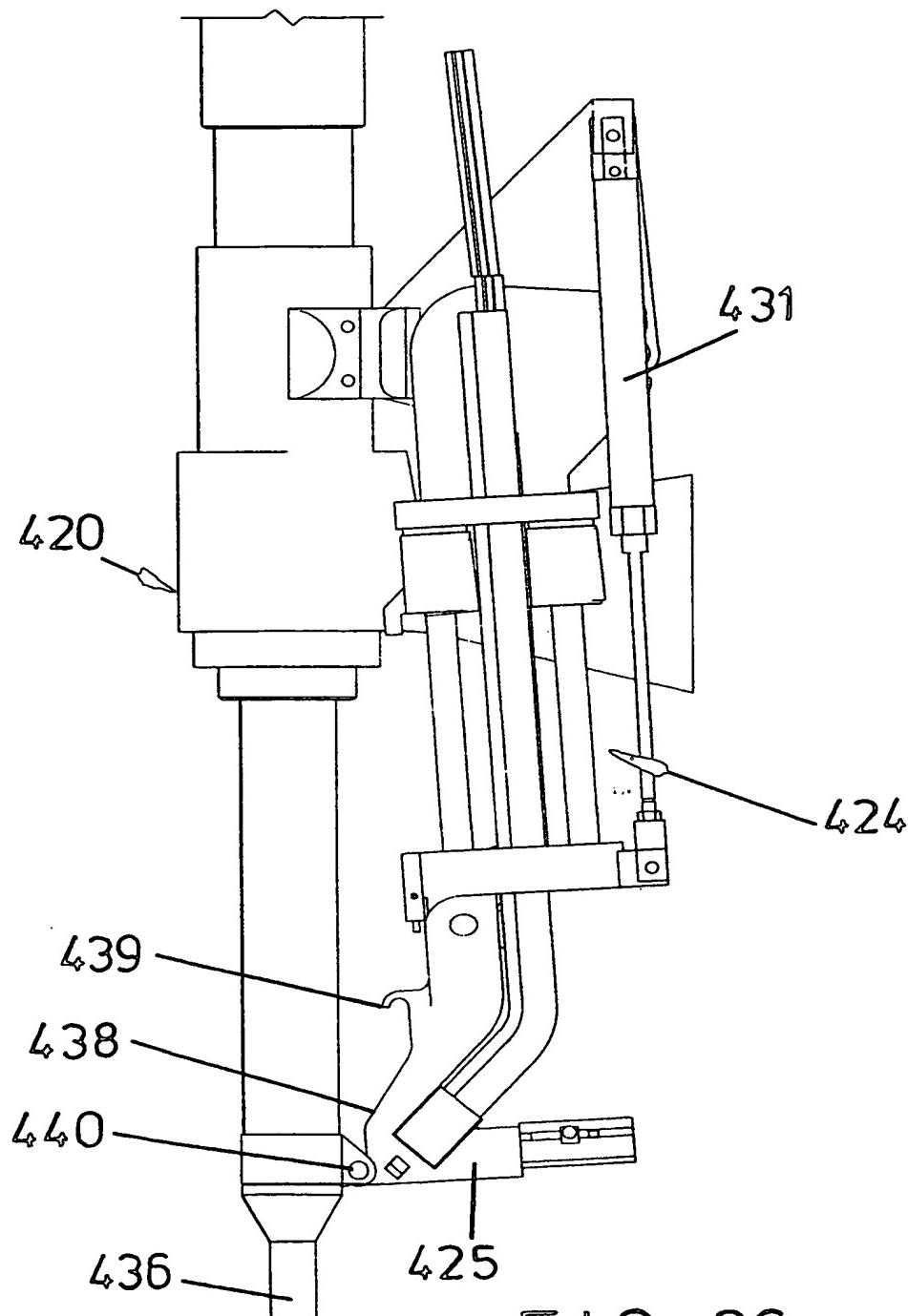
FIG. 31a

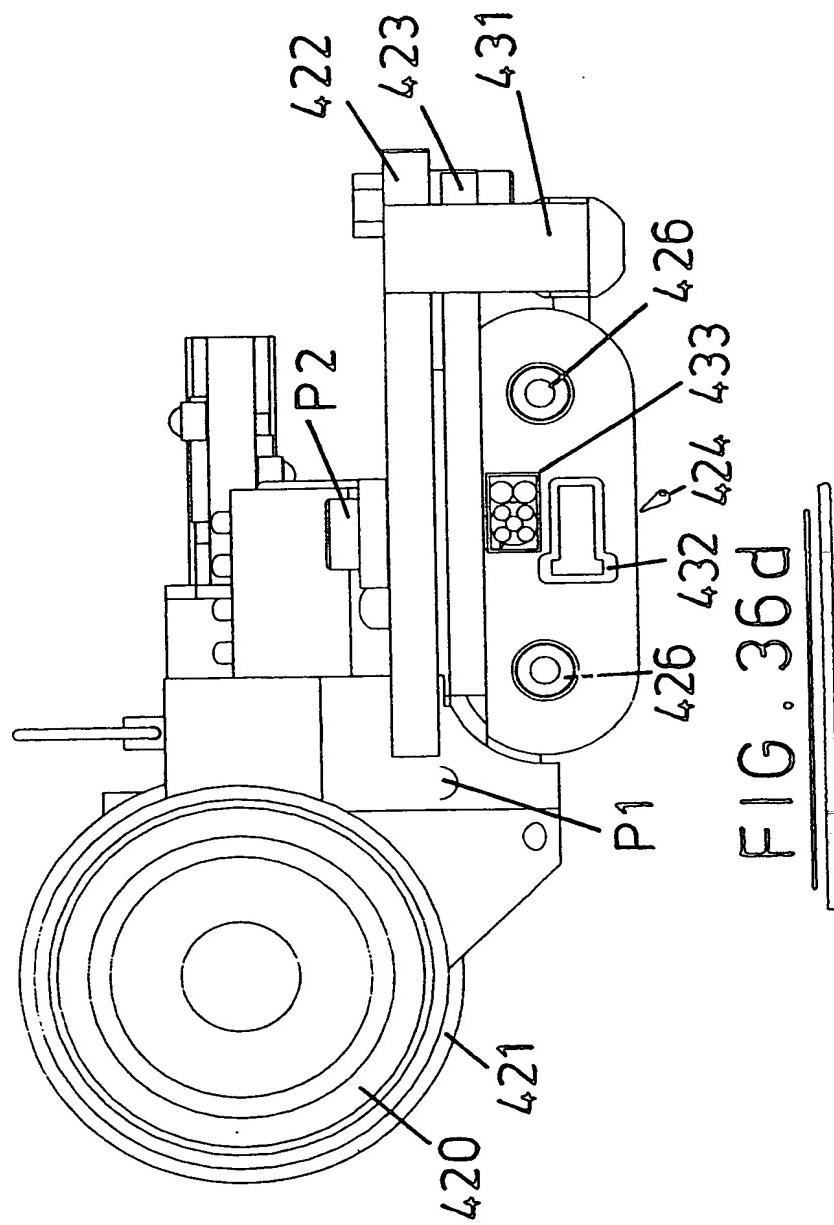
3457FIG. 32FIG. 33

35-57FIG. 35FIG. 34



37-57

38-57FIG. 36c

39-57

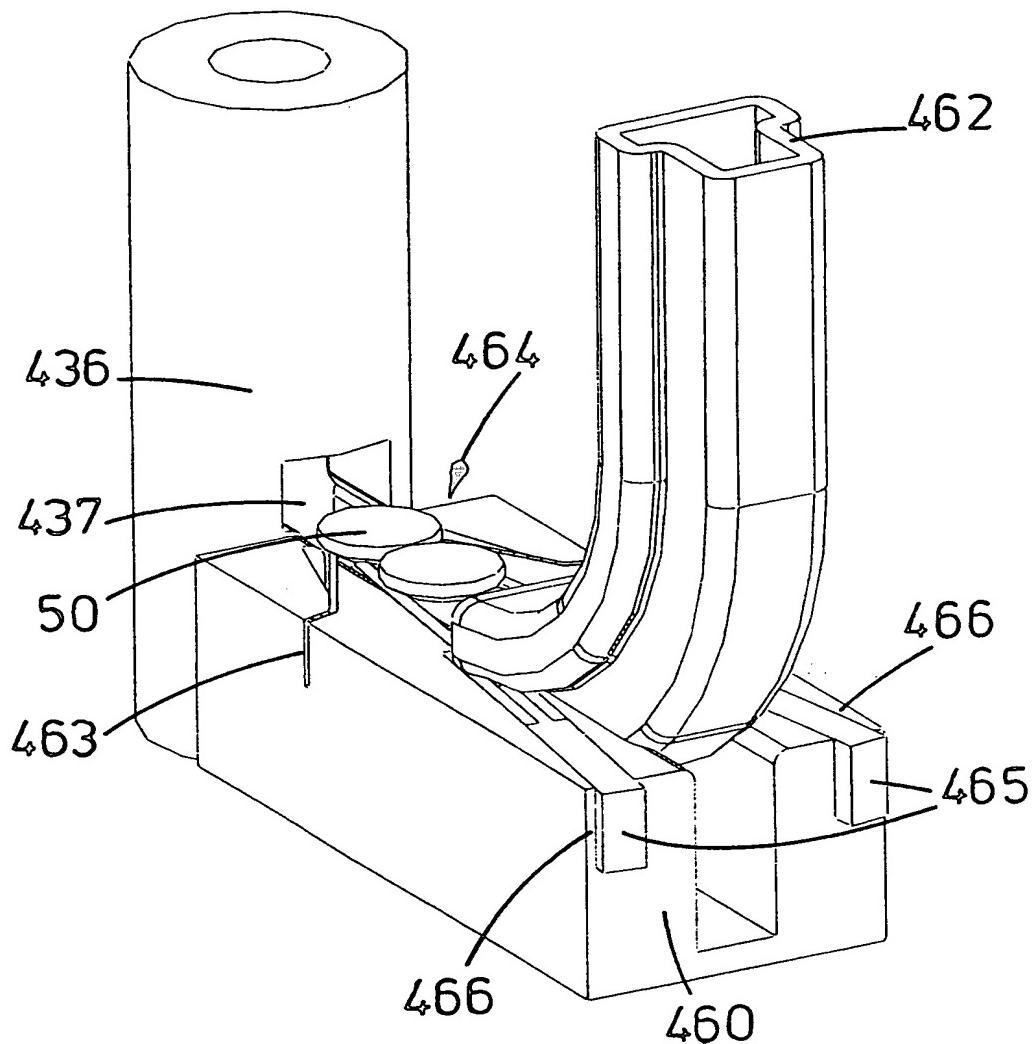
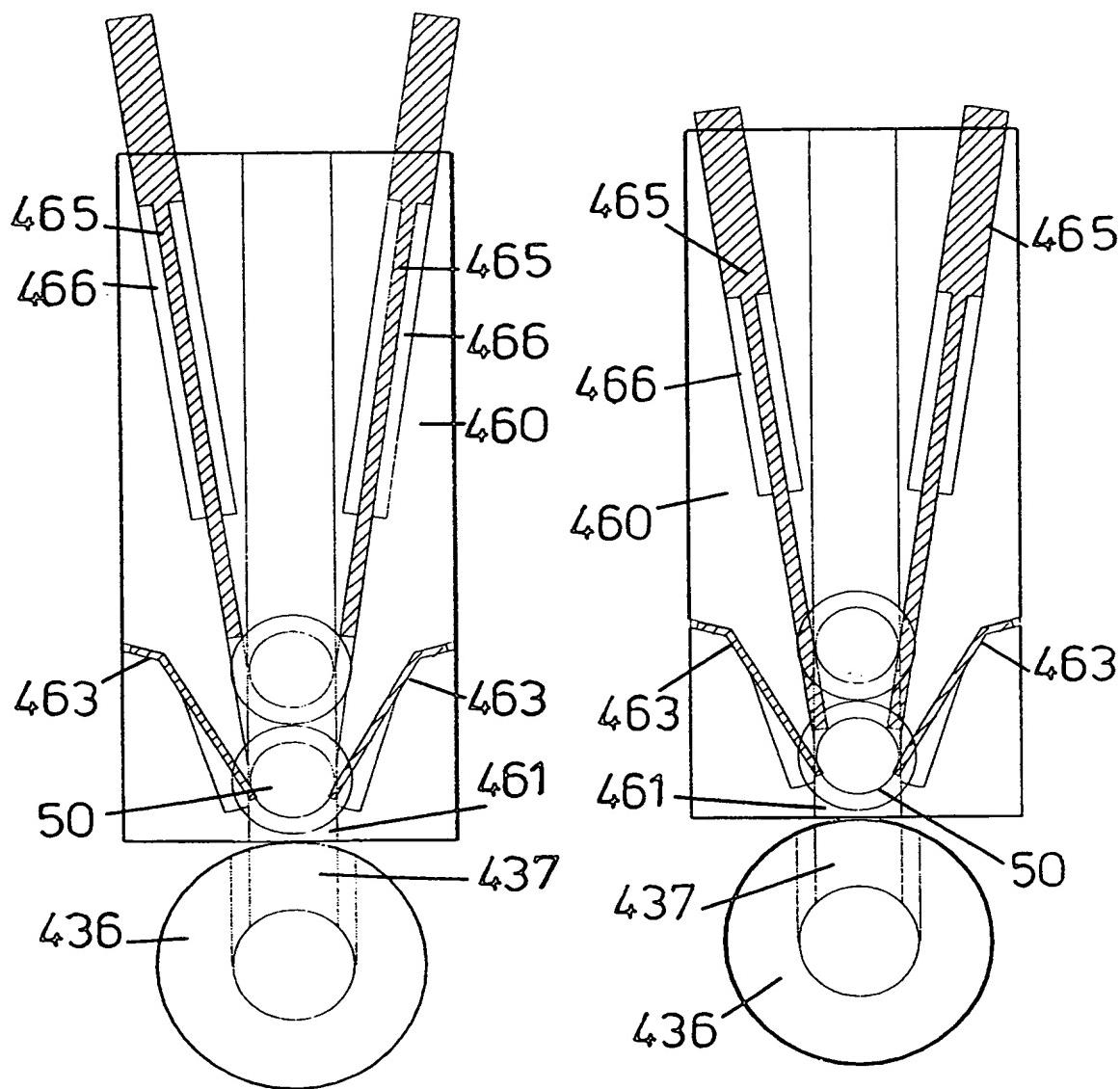
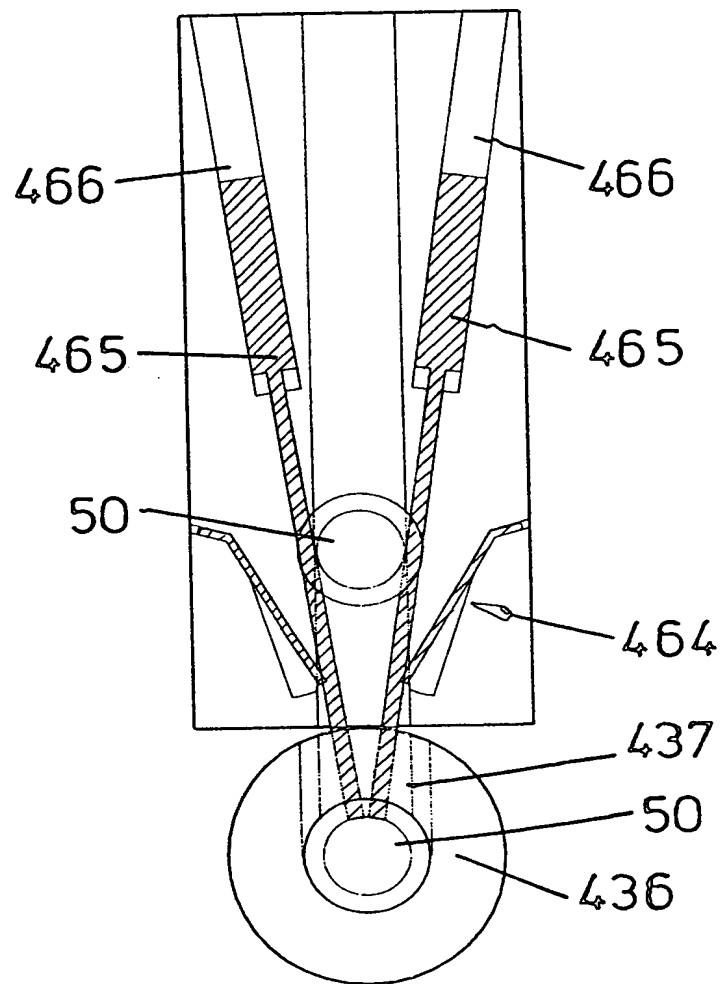
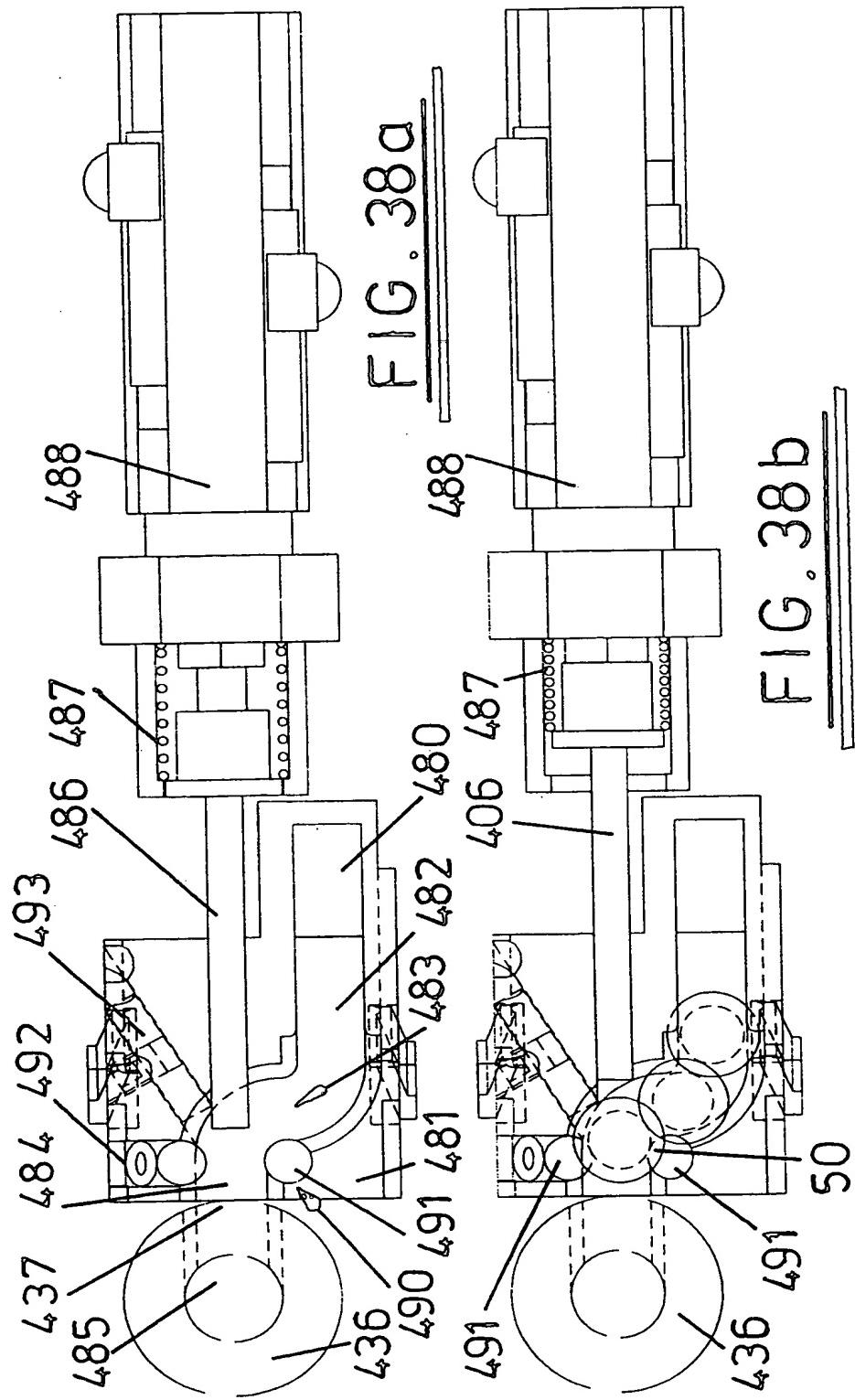
40-57

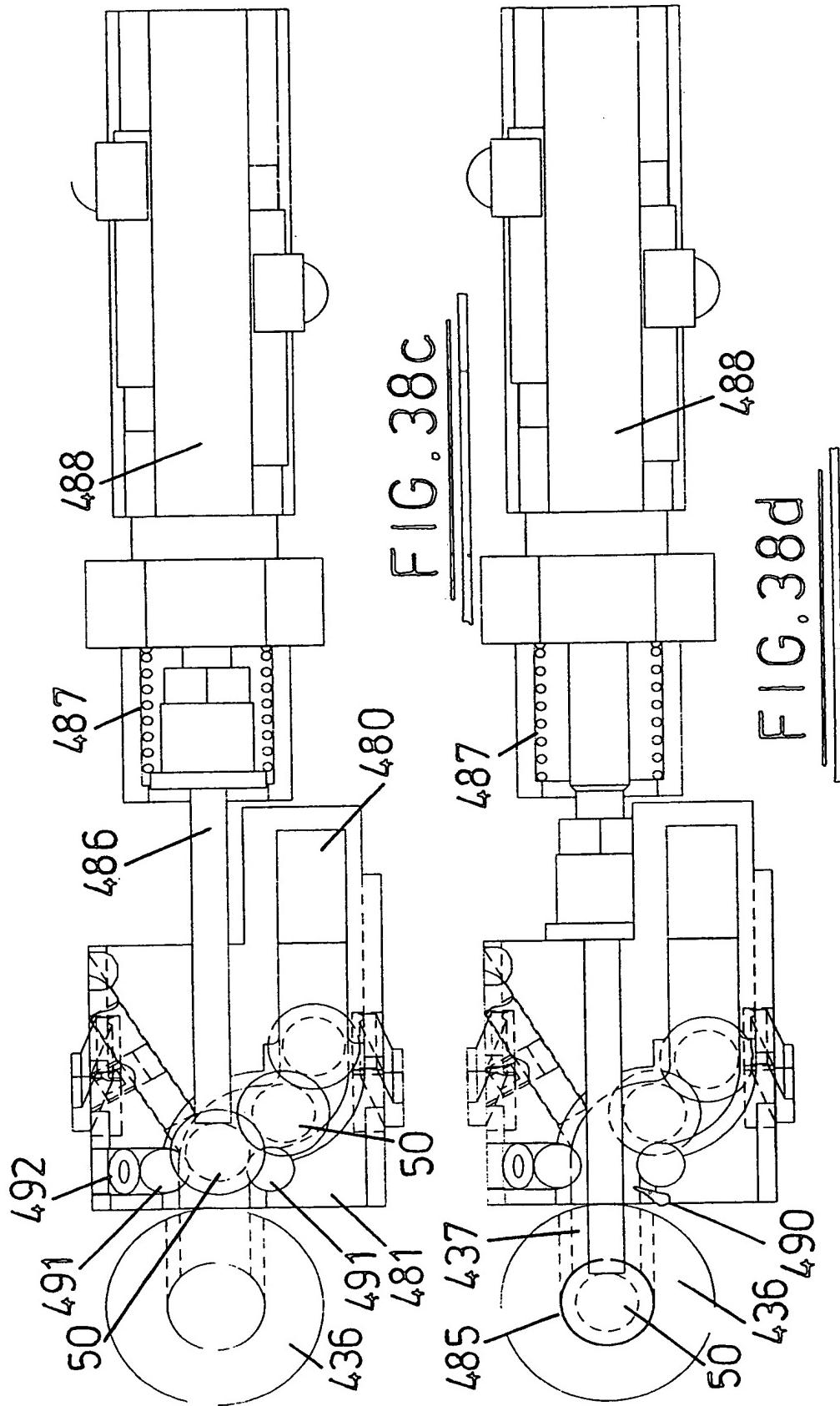
FIG. 37a

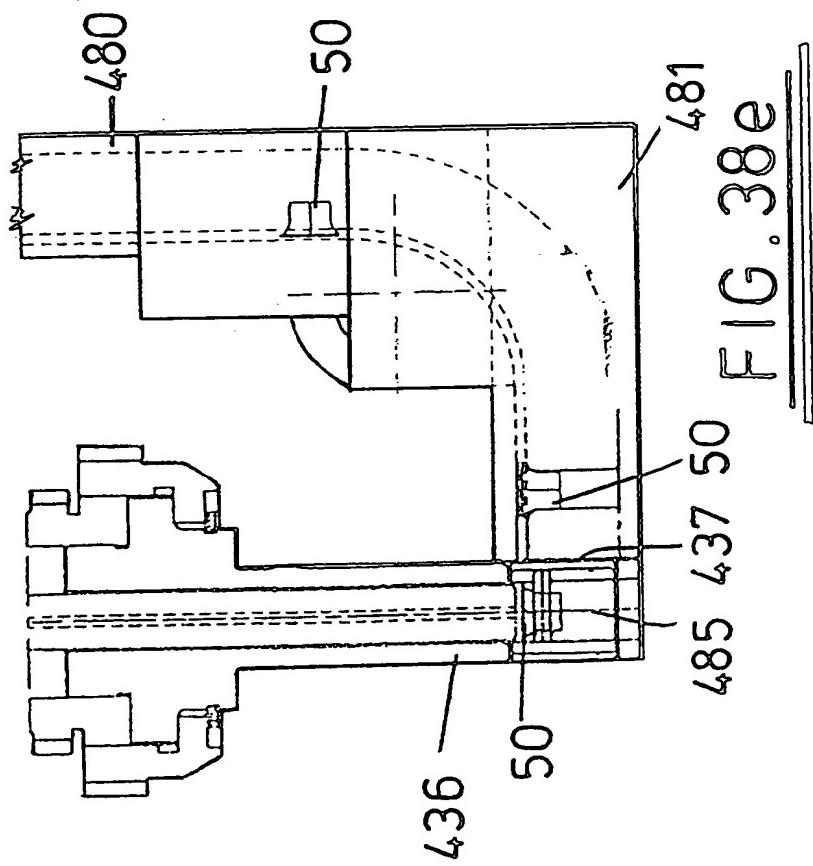
41-57FIG. 37 bFIG. 37 c

42-57FIG. 37d

43-57



44-57

4557

46-57

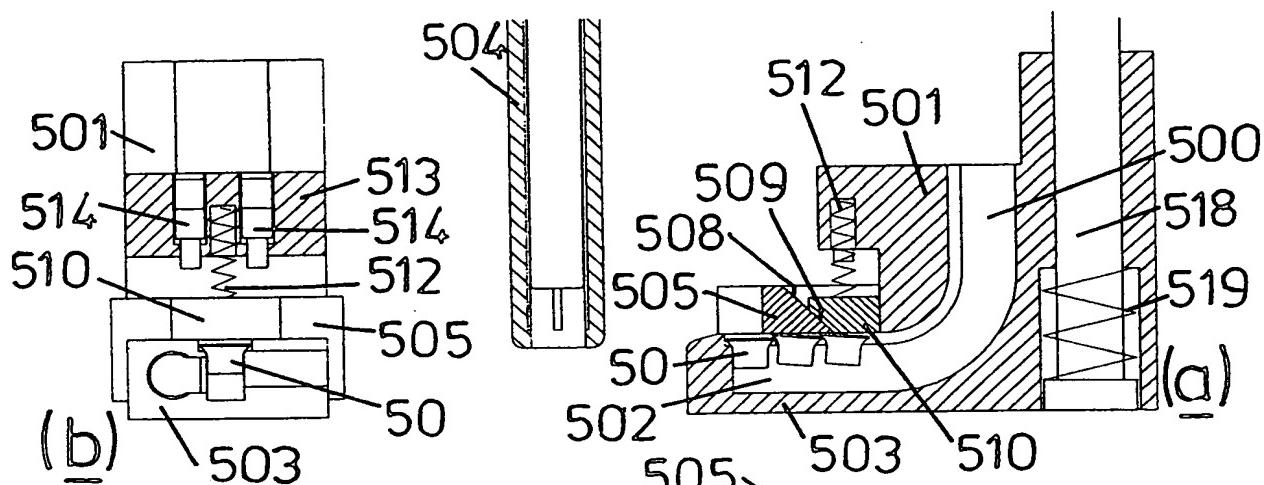


FIG. 39

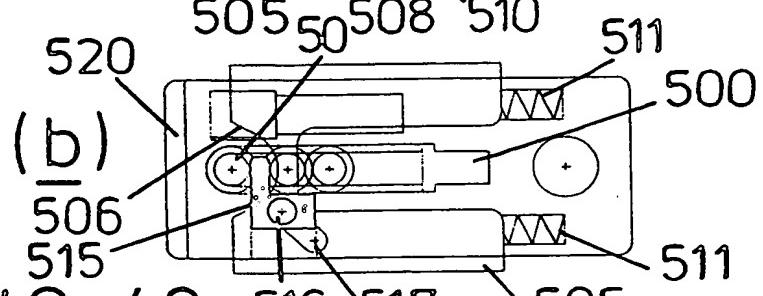
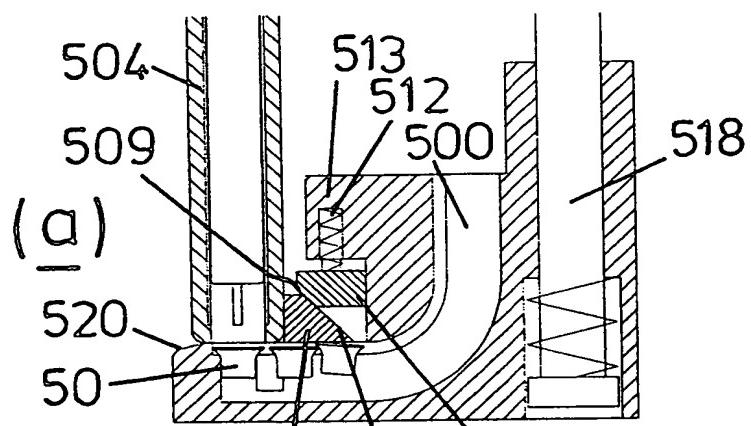
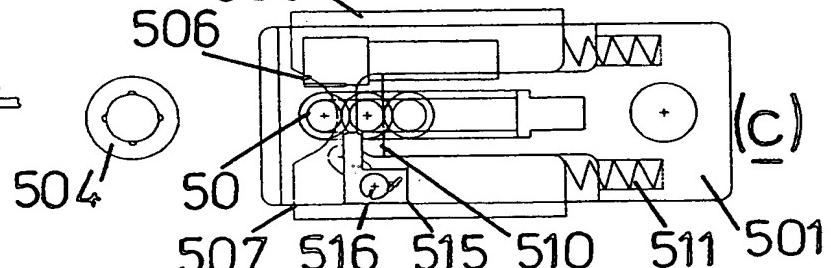
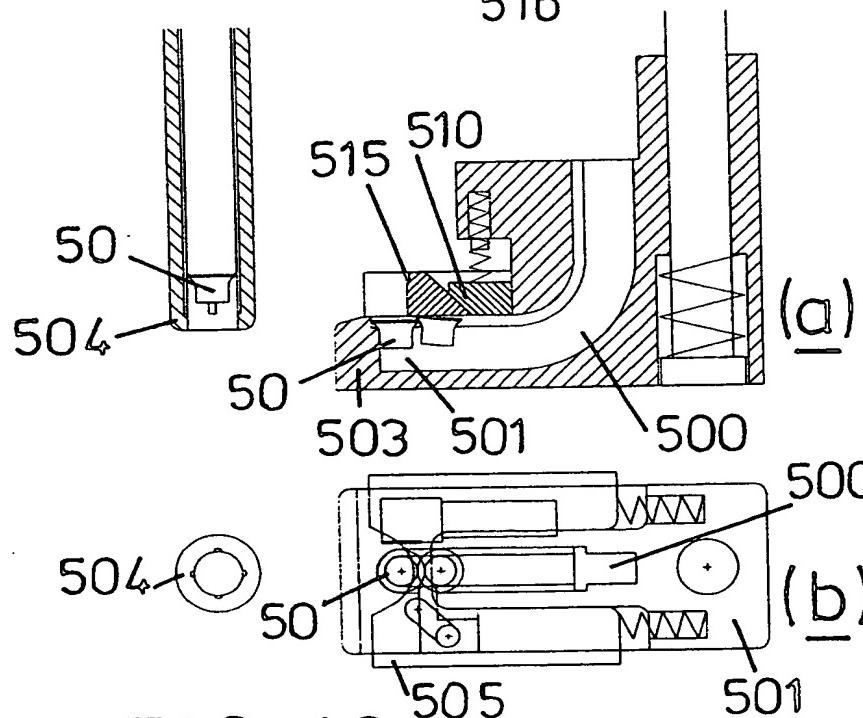
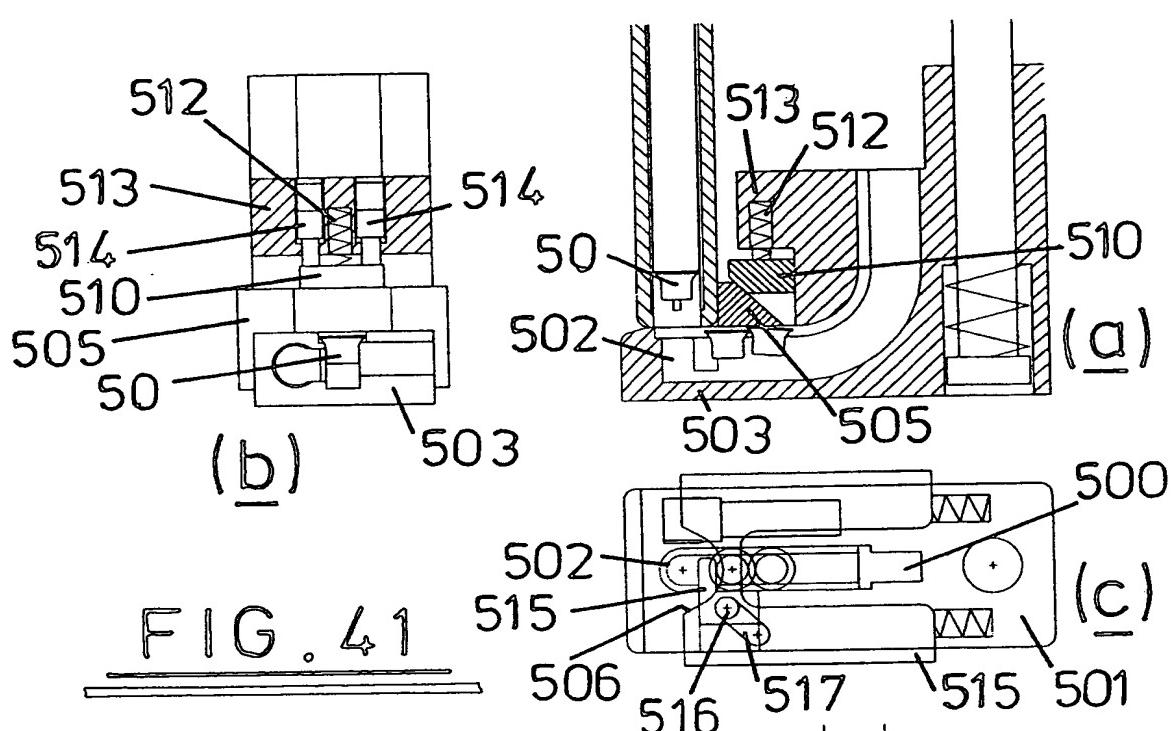
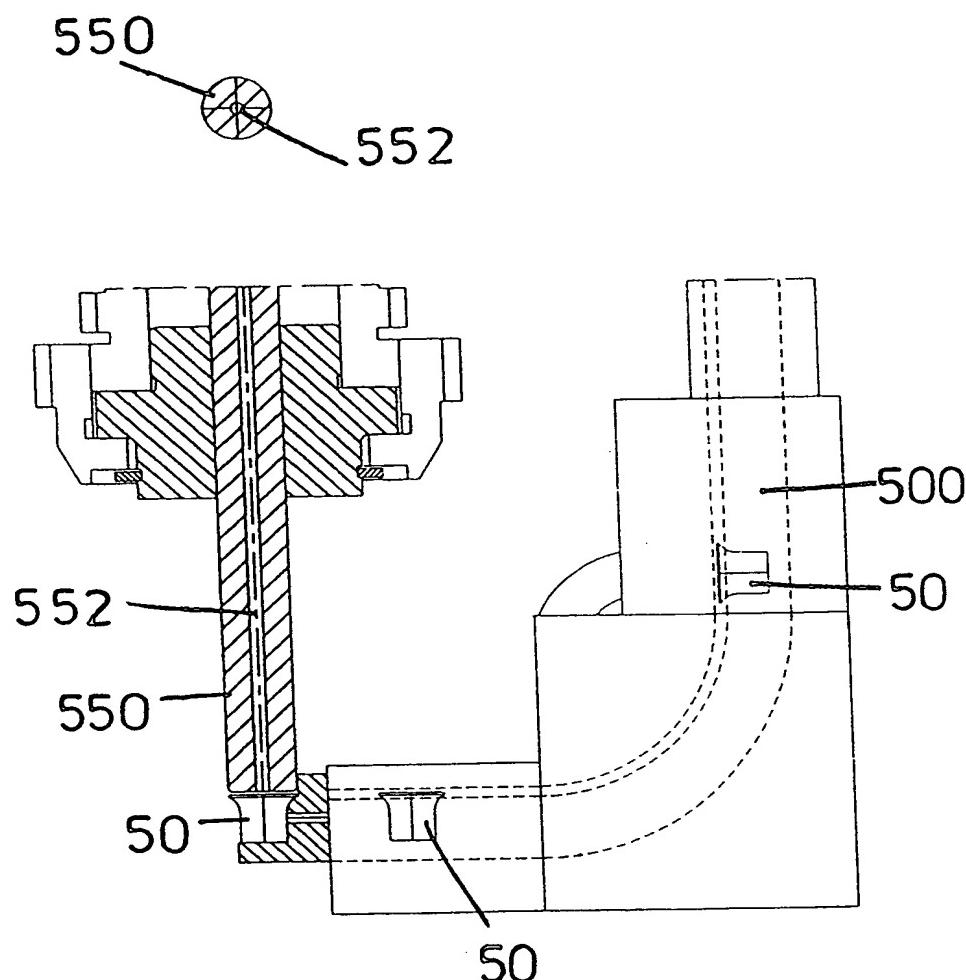
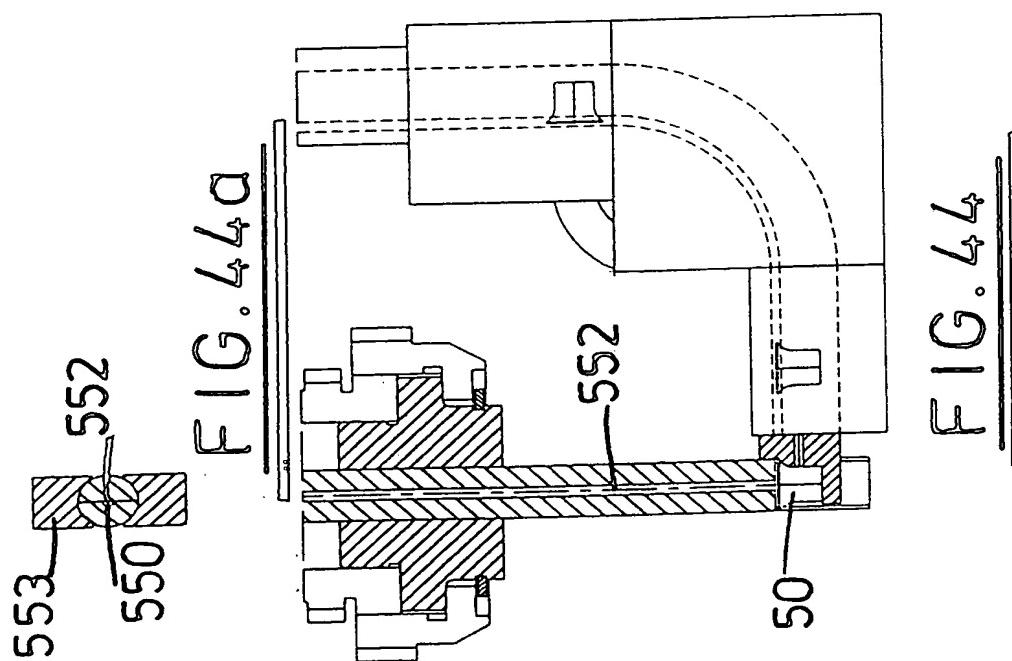
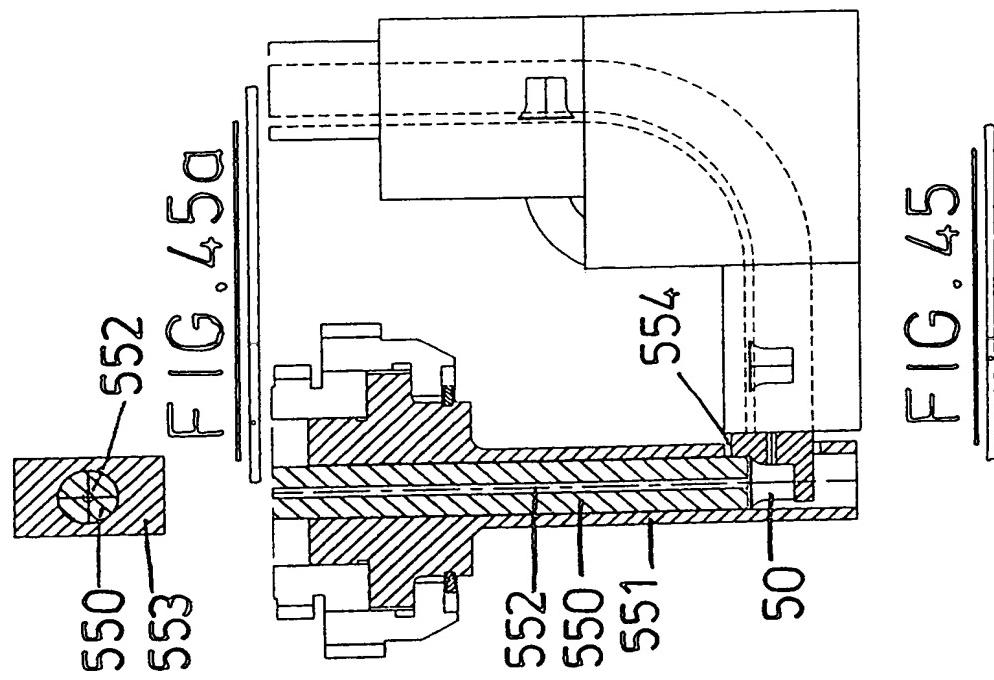


FIG. 4

47-57

48.57FIG. 43

4957

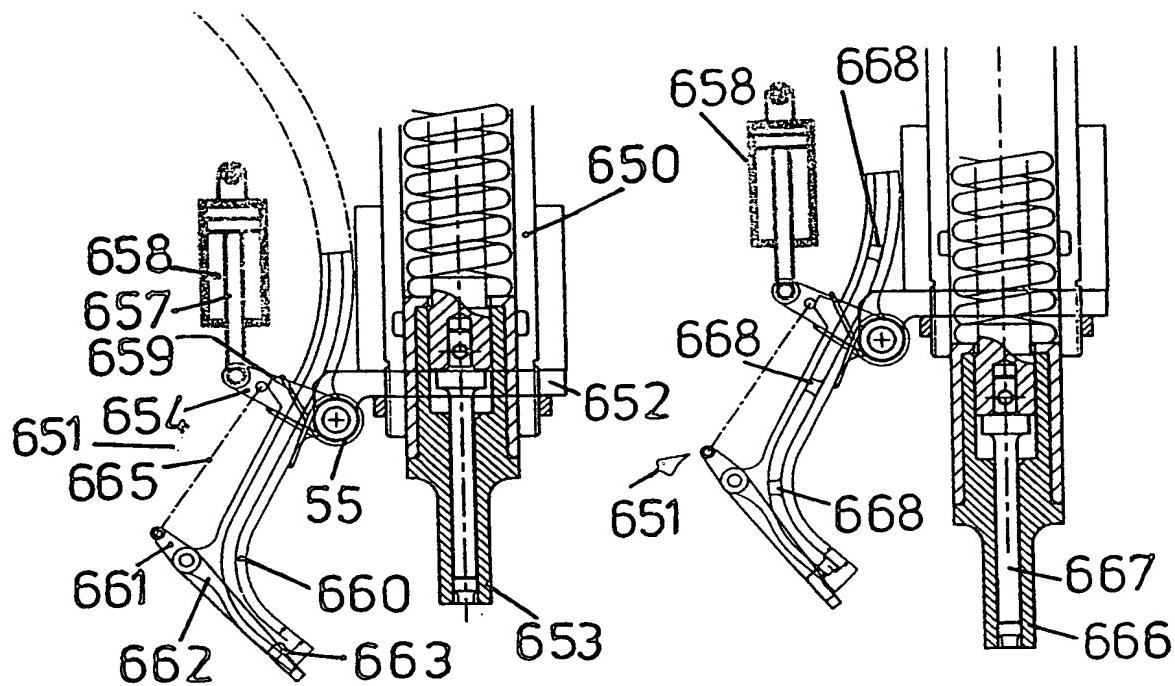
50-57

FIG. 46

FIG. 47

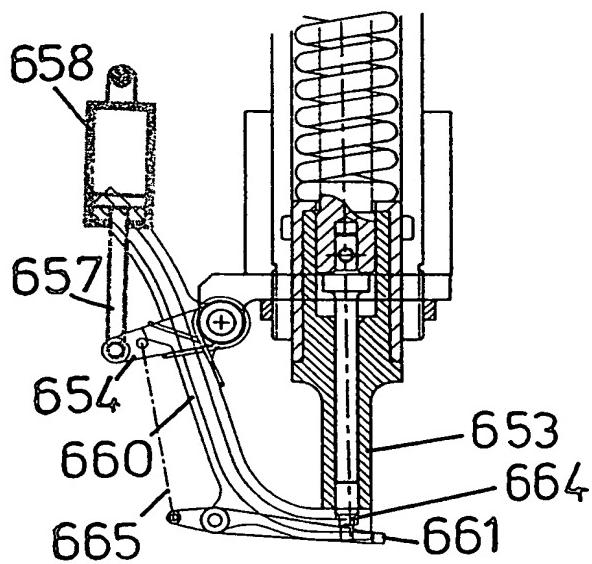


FIG. 50

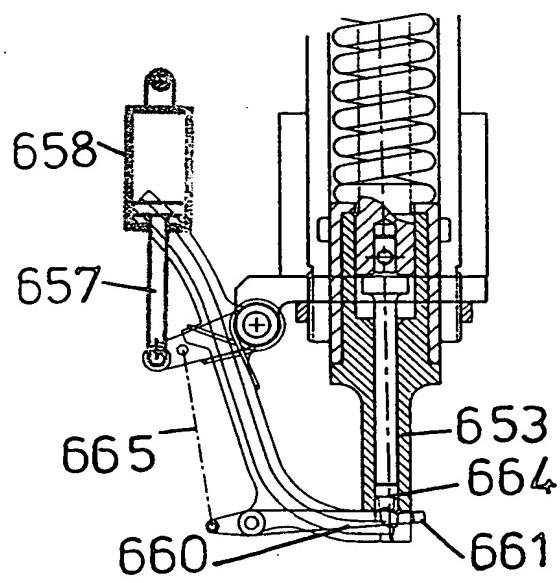
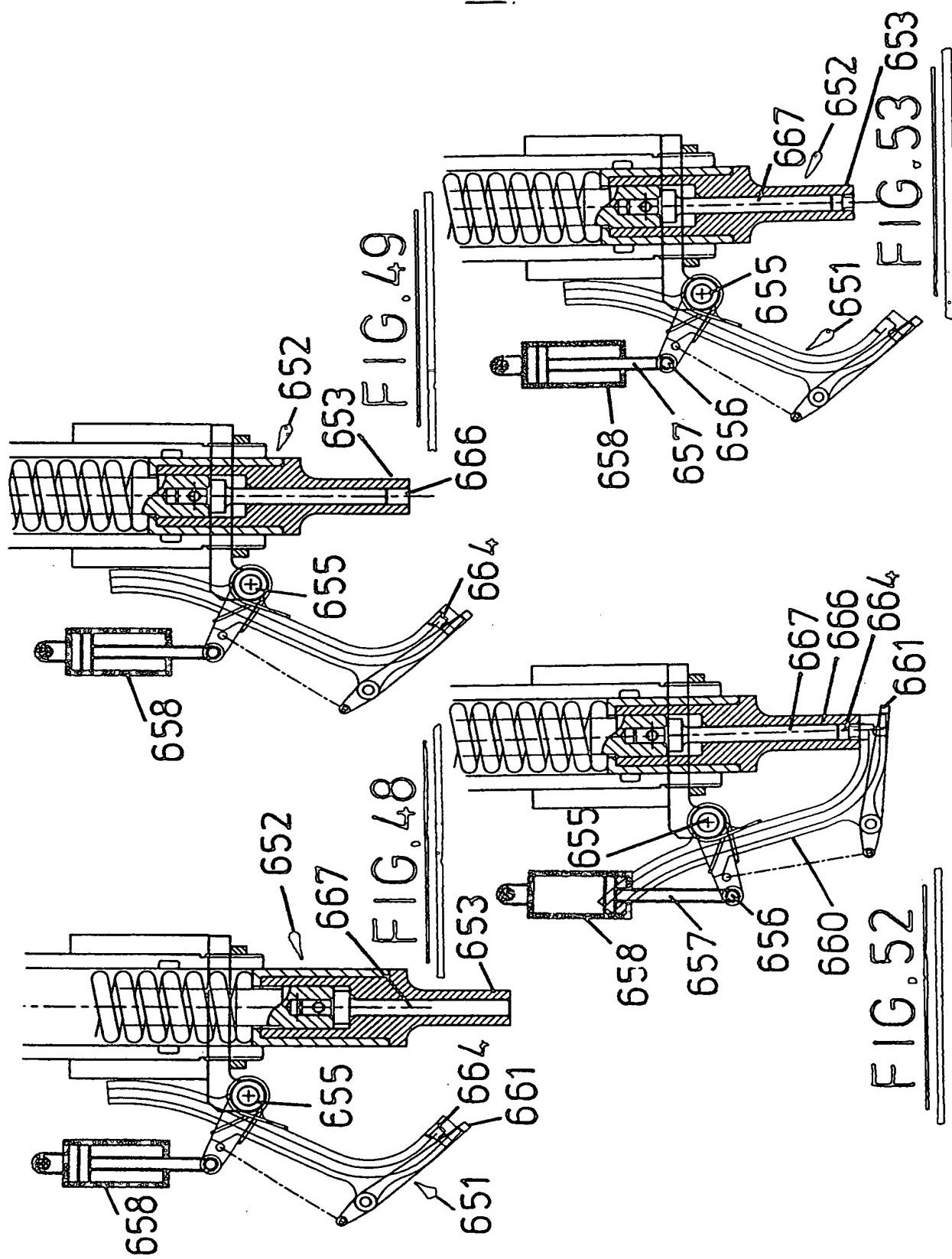
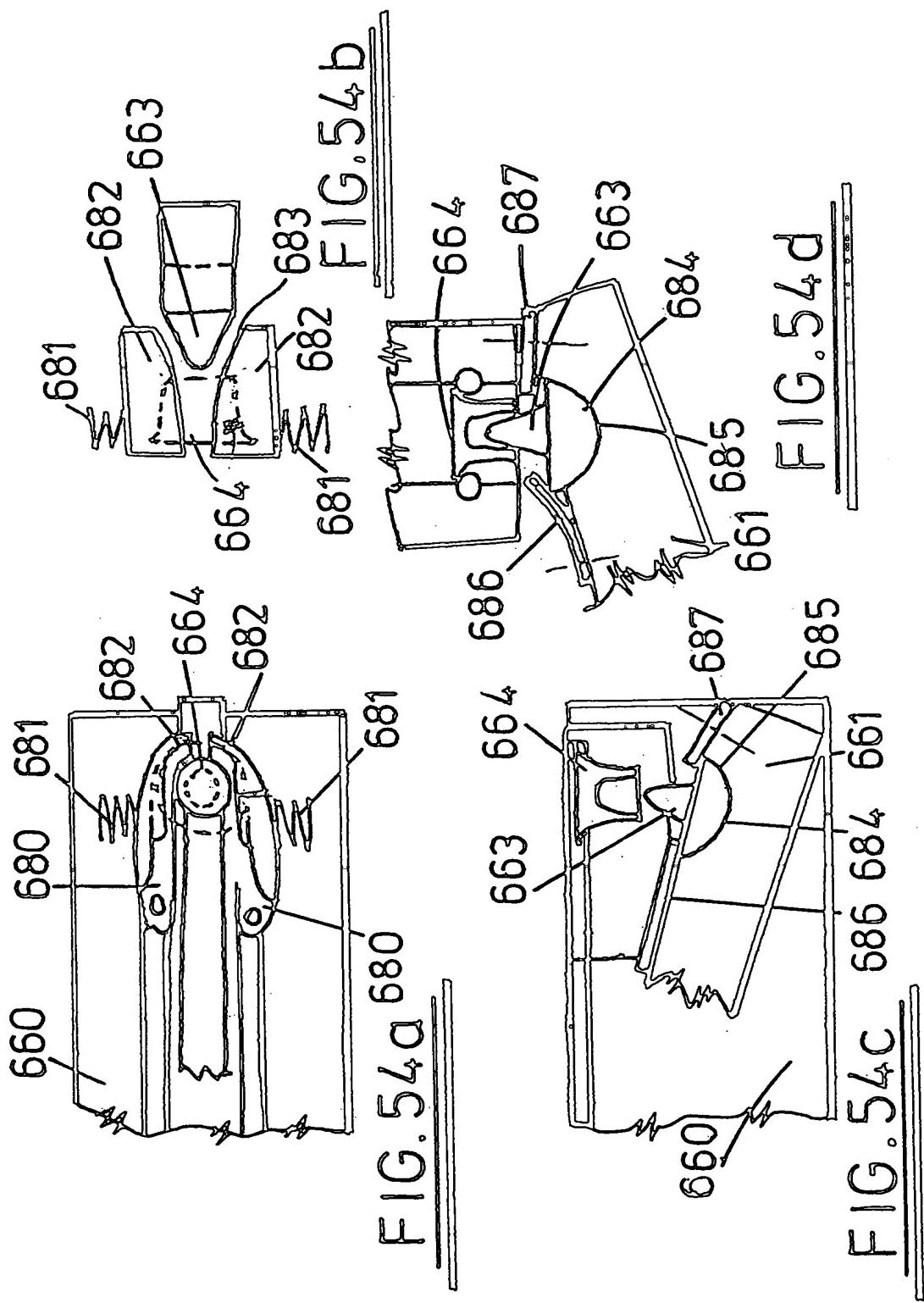
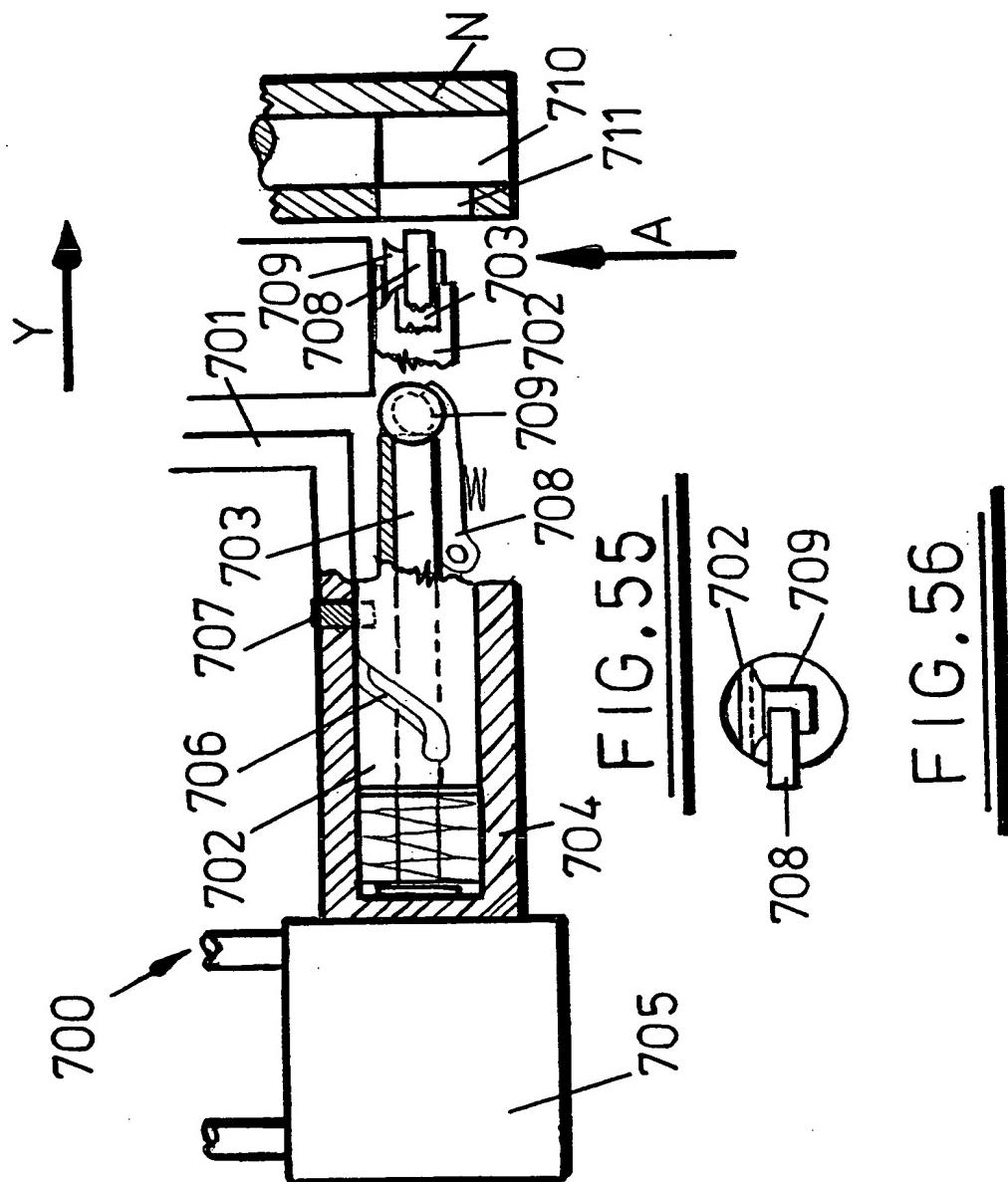
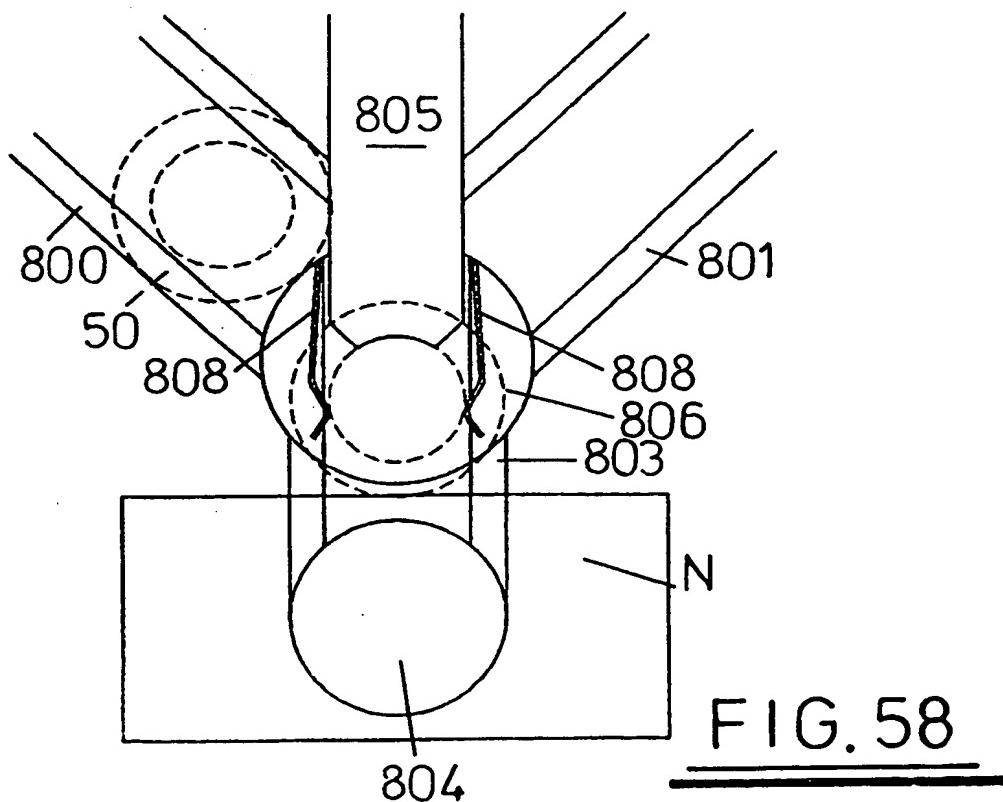
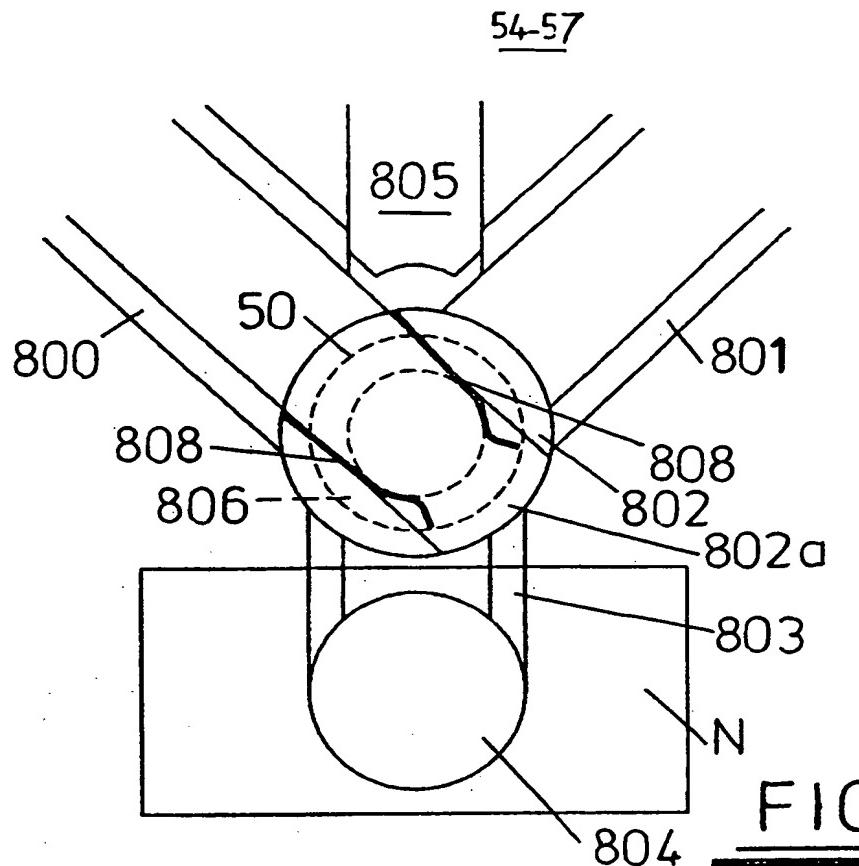


FIG. 51

51-57

52-57

5.57



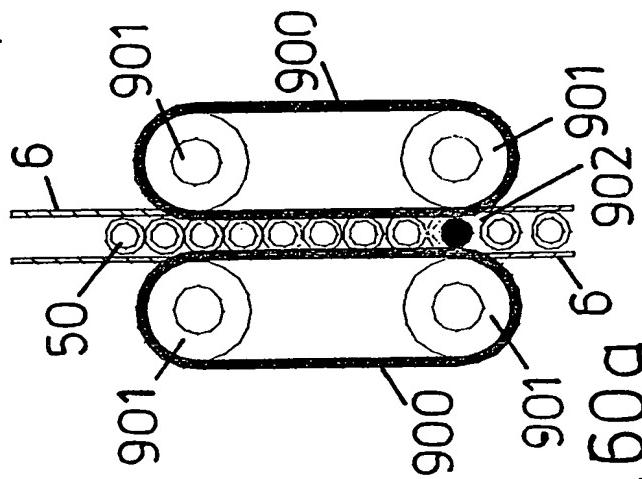
55-57

FIG. 60a

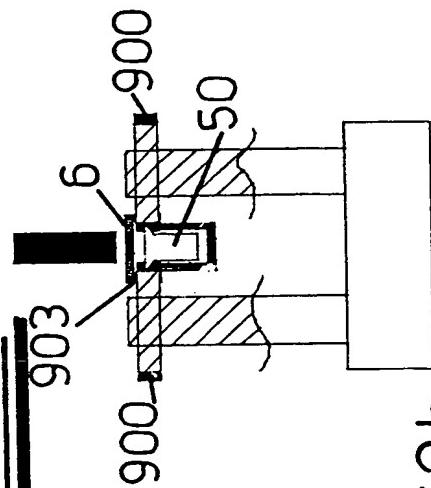


FIG. 60b

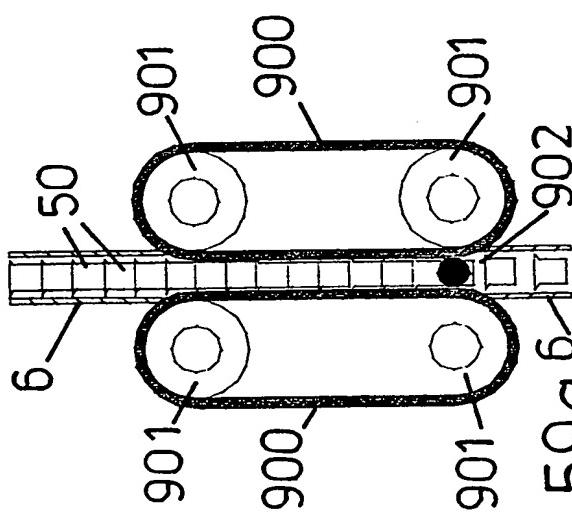


FIG. 59a

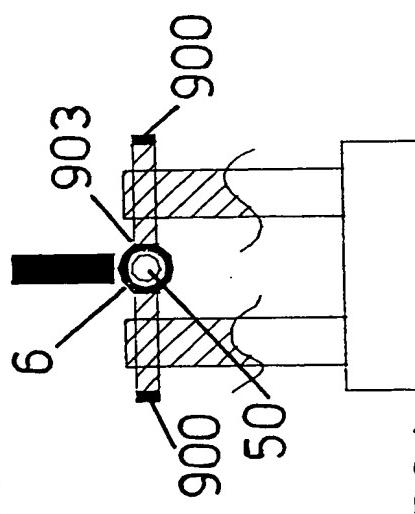
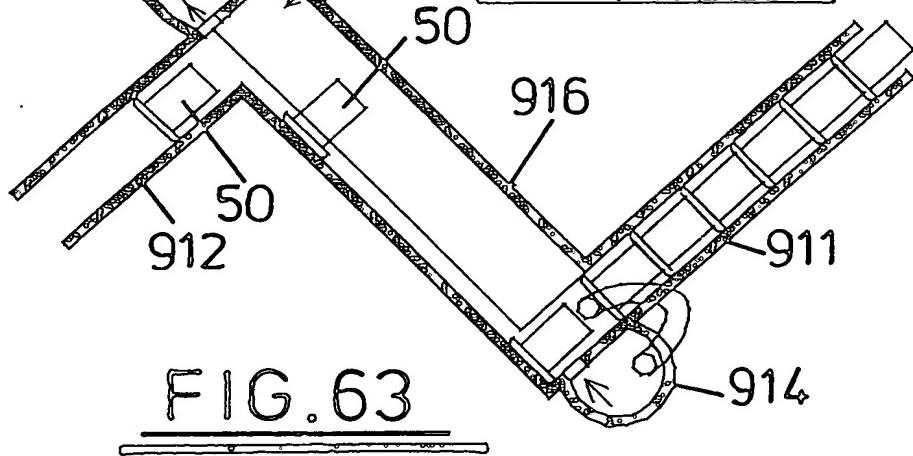
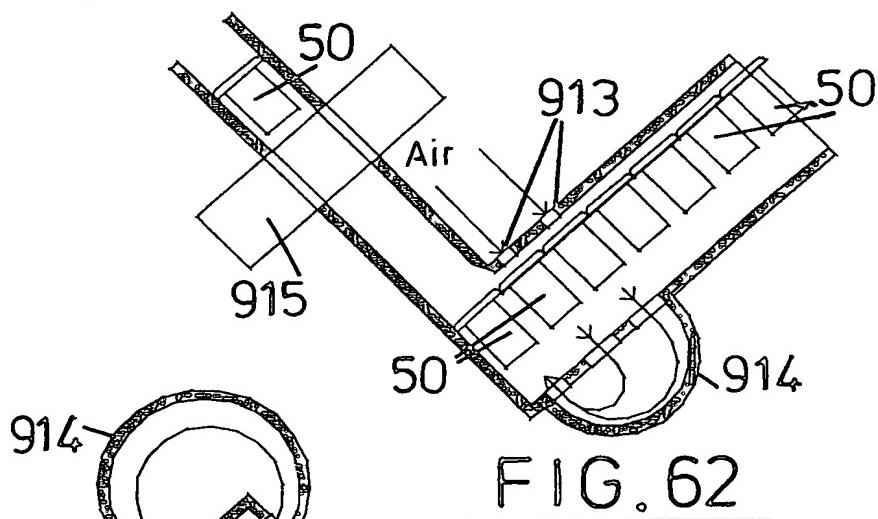
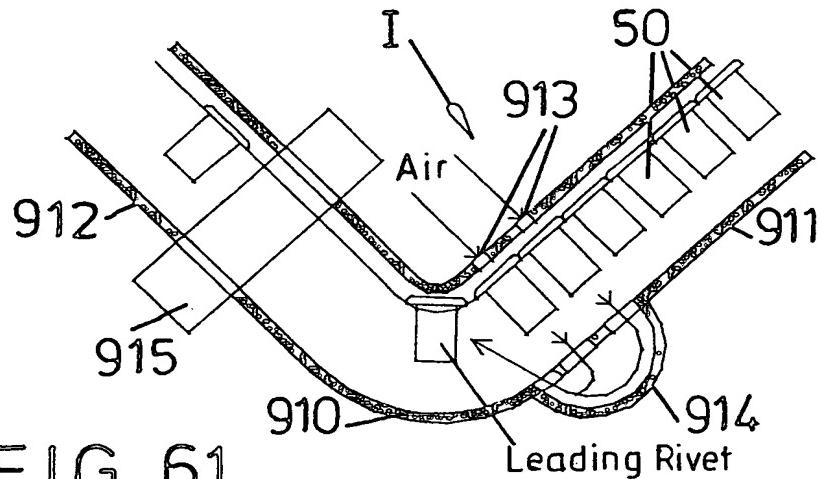


FIG. 59b

5657

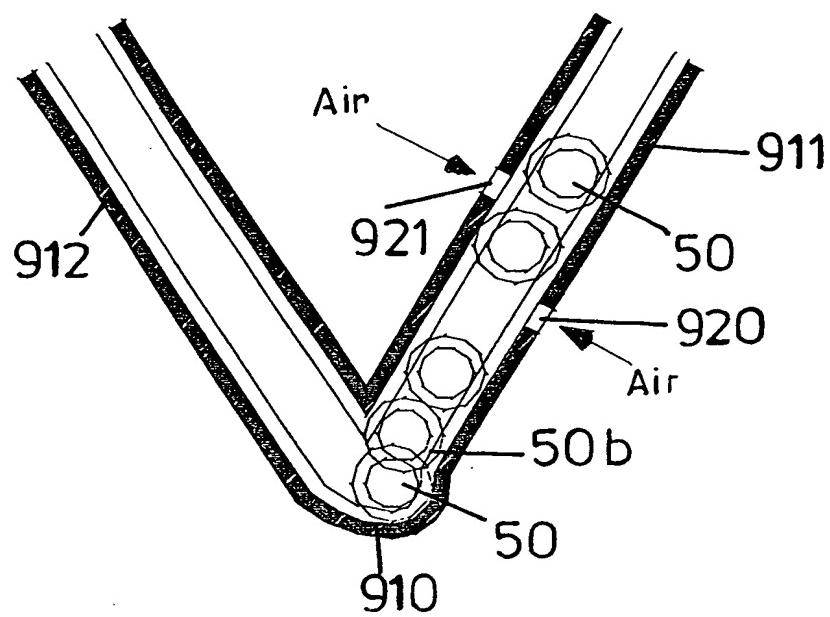
57-57

FIG. 64

INTERNATIONAL SEARCH REPORT

Inte onal Application No
PCT/GB 99/02545

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B21J15/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B21J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2 493 868 A (GRIFFIN) 10 January 1950 (1950-01-10)	1,2,8,9
A	column 3, line 16 -column 5, line 51; figures ---	14-16, 32,48,58
Y	US 4 044 462 A (ANSELMO DARIO) 30 August 1977 (1977-08-30) column 2, line 60 -column 3, line 54; figures ---	1,8-10, 14,15,19
Y	US 5 472 087 A (RINK PHILIP A ET AL) 5 December 1995 (1995-12-05)	1,8-10, 14,15,19
A	column 3, line 5 - line 29	32,35, 48,58
X	column 3, line 46 - line 53 column 4, line 16 - line 44; figures ---	52-54,56
		-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Date of the actual completion of the international search

15 December 1999

Date of mailing of the international search report

22/12/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.
Fax: (+31-70) 340-3016

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Barrow, J

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 99/02545

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	page 6, line 20 -page 8, line 9; figures ---	27,37, 72,73
A	DE 297 19 744 U (EMHART INC) 26 February 1998 (1998-02-26) page 9, line 14 - line 30 page 11, line 4 - line 16 page 12, line 28 -page 13, line 26; figures ---	1,14-17
A	PATENT ABSTRACTS OF JAPAN vol. 005, no. 147 (M-088), 17 September 1981 (1981-09-17) & JP 56 077042 A (PRESS KOGYO KK), 25 June 1981 (1981-06-25) abstract; figures 6,7 ---	1,11,14
A	WO 95 28242 A (BLACKET STUART EDMUND ;GOSTYLLA WOJCIECH (AU); HENROB LTD (GB)) 26 October 1995 (1995-10-26) page 7, line 19 -page 8, line 9; figures 5,6 ---	72,73
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Information on patent family members

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PCT/GB 99/02545

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